FCC Test Report

Product Name	VUZE-XR Camera
Model No.	HETVZ-XR
FCC ID.	2AKDRHETVZ-XR

Applicant	Humaneyes Technologies Ltd.
Address	Communication Center, Neve Ilan D.N. Harey Jerusalem , 9085000

Date of Receipt	Aug. 22, 2018
Issued Date	Oct. 02, 2018
Report No.	1880290R-RFUSP01V00
Report Version	V1.0

Testing Laboratory
3023

The test results relate only to the samples tested.
The test results shown in the test report are traceable to the national/international standard through the calibration report of the equipment and evaluated measurement uncertainty herein.
This report must not be used to claim product endorsement by TAF or any agency of the government.

Test Report

Issued Date: Oct. 02, 2018
Report No.: 1880290R-RFUSP01V00

Product Name	VUZE-XR Camera
Applicant	Humaneyes Technologies Ltd.
Address	Communication Center, Neve Ilan D.N. Harey Jerusalem , 9085000
Manufacturer	Humaneyes Technologies Ltd.
Model No.	HETVZ-XR
FCC ID.	2AKDRHETVZ-XR
EUT Rated Voltage	Battery DC 3.7V
EUT Test Voltage	AC 120V / 60Hz(adaptor) DC 3.7V
Trade Name	VUZE
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2016 ANSI C63.4: 2014, ANSI C63.10: 2013
Test Result	Complied

Documented By : Peggy Tu

(Adm. Assistant / Peggy Tu)

Tested By :

(Assistant Engineer / Trista Huang)

Approved By :

(Director / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	VUZE-XR Camera
Trade Name	VUZE
Model No.	HETVZ-XR
FCC ID.	2AKDRHETVZ-XR
Frequency Range	2402-2480MHz
Channel Number	79
Type of Modulation	FHSS: GFSK(1Mbps) / π /4DQPSK(2Mbps) / 8DPSK(3Mbps)
Antenna Type	PIFA Antenna
Channel Control	Auto
Antenna Gain	Refer to the table “Antenna List”
USB Cable	Shielded, 0.8m
Power Adapter	MFR: VUZE, M/N: KSA29B0500200D5 Input: AC 100-240V~50/60Hz, 0.5A Output: 5V⎓2.0A

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	LYNwave	N/A	PIFA	1.30dBi for 2.4 GHz

Note:

1. The antenna of EUT conforms to FCC 15.203.

Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 00:	2402 MHz	Channel 20:	2422 MHz	Channel 40:	2442 MHz	Channel 60:	2462 MHz
Channel 01:	2403 MHz	Channel 21:	2423 MHz	Channel 41:	2443 MHz	Channel 61:	2463 MHz
Channel 02:	2404 MHz	Channel 22:	2424 MHz	Channel 42:	2444 MHz	Channel 62:	2464 MHz
Channel 03:	2405 MHz	Channel 23:	2425 MHz	Channel 43:	2445 MHz	Channel 63:	2465 MHz
Channel 04:	2406 MHz	Channel 24:	2426 MHz	Channel 44:	2446 MHz	Channel 64:	2466 MHz
Channel 05:	2407 MHz	Channel 25:	2427 MHz	Channel 45:	2447 MHz	Channel 65:	2467 MHz
Channel 06:	2408 MHz	Channel 26:	2428 MHz	Channel 46:	2448 MHz	Channel 66:	2468 MHz
Channel 07:	2409 MHz	Channel 27:	2429 MHz	Channel 47:	2449 MHz	Channel 67:	2469 MHz
Channel 08:	2410 MHz	Channel 28:	2430 MHz	Channel 48:	2450 MHz	Channel 68:	2470 MHz
Channel 09:	2411 MHz	Channel 29:	2431 MHz	Channel 49:	2451 MHz	Channel 69:	2471 MHz
Channel 10:	2412 MHz	Channel 30:	2432 MHz	Channel 50:	2452 MHz	Channel 70:	2472 MHz
Channel 11:	2413 MHz	Channel 31:	2433 MHz	Channel 51:	2453 MHz	Channel 71:	2473 MHz
Channel 12:	2414 MHz	Channel 32:	2434 MHz	Channel 52:	2454 MHz	Channel 72:	2474 MHz
Channel 13:	2415 MHz	Channel 33:	2435 MHz	Channel 53:	2455 MHz	Channel 73:	2475 MHz
Channel 14:	2416 MHz	Channel 34:	2436 MHz	Channel 54:	2456 MHz	Channel 74:	2476 MHz
Channel 15:	2417 MHz	Channel 35:	2437 MHz	Channel 55:	2457 MHz	Channel 75:	2477 MHz
Channel 16:	2418 MHz	Channel 36:	2438 MHz	Channel 56:	2458 MHz	Channel 76:	2478 MHz
Channel 17:	2419 MHz	Channel 37:	2439 MHz	Channel 57:	2459 MHz	Channel 77:	2479 MHz
Channel 18:	2420 MHz	Channel 38:	2440 MHz	Channel 58:	2460 MHz	Channel 78:	2480 MHz
Channel 19:	2421 MHz	Channel 39:	2441 MHz	Channel 59:	2461 MHz		

Note:

1. The EUT is a VUZE-XR Camera with a built-in WLAN、Bluetooth V3.0, V2.1+EDR,V4.0 transceiver this report for Bluetooth V3.0, V2.1+EDR.
2. These tests were conducted on a sample for the purpose of demonstrating compliance of Bluetooth transmitter with Part 15 Subpart C Paragraph 15.247 for spread spectrum devices.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test
4. Bluetooth operation was evaluated at both 1Mb/s and 3Mb/s data rates. 2Mb/s data rate was found, through pre-testing, to produce emissions similar to those for 3Mb/s.
5. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
6. The EUT employs Adaptive Frequency Hopping (AFH) which identifies sources of interference namely devices operating in 802.11 WLAN and excludes them from the list of available channels. The process of re-mapping reduces the number of test channels from 79 channels to a minimum number of 20 channels.

Test Mode	Mode 1: Transmit - 1Mbps (GFSK) Mode 2: Transmit - 3Mbps (8DPSK) Mode 3: Charge mode

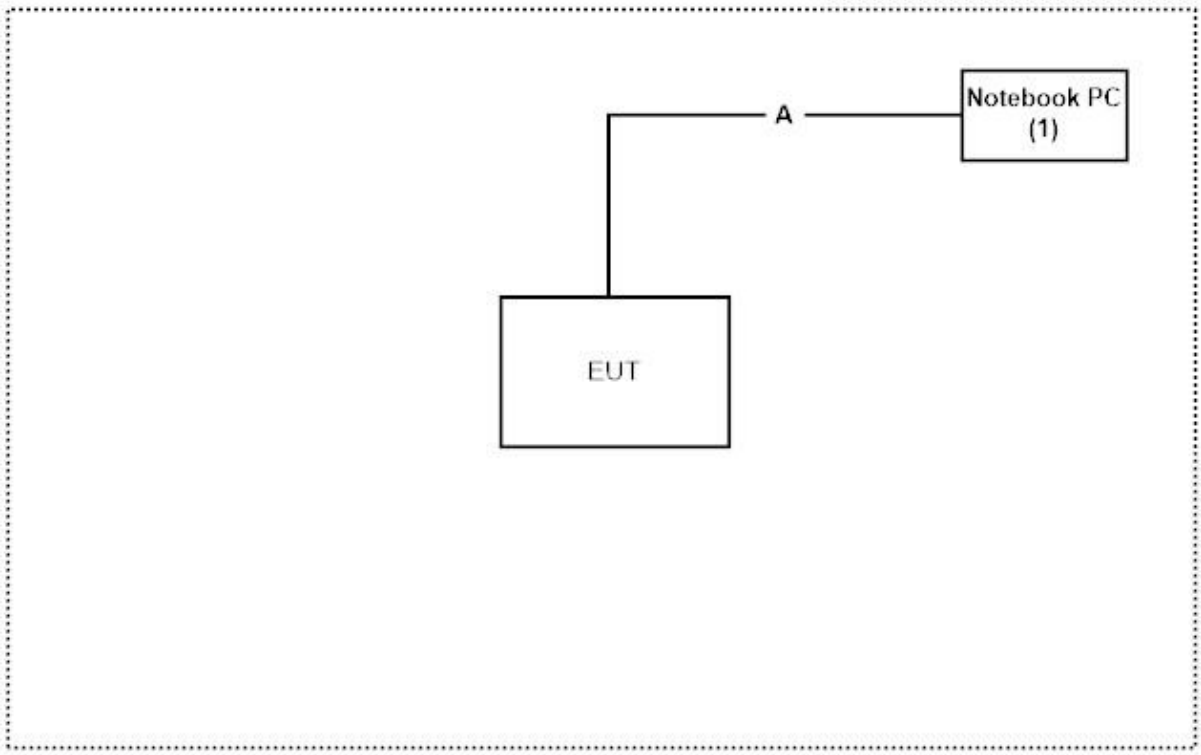
1.2. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Notebook PC	DELL	Latitude E5440	B6TYTZ1	Non-Shielded, 0.8m

Signal Cable Type		Signal cable Description
A	USB Cable	Shielded, 0.8m

1.3. Configuration of Tested System



1.4. EUT Exercise Software

1. Setup the EUT as shown in Section 1.4.
2. Execute software ”Tera Term v4.99” on the Notebook PC.
3. Configure the test mode, the test channel, and the data rate.
4. Press “OK” to start the continuous Transmit.
5. Verify that the EUT works properly.

1.5. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	30-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:
http://www.dekra.com.tw/english/about/certificates.aspx?bval=5
The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw/index_en.aspx

Site Description: Accredited by TAF
Accredited Number: 3023

Site Name: DEKRA Testing and Certification Co., Ltd
Site Address: No.5-22, Ruishukeng, Linkou Dist., New Taipei City 24451, Taiwan, R.O.C.
TEL : 886-2-8601-3788 / FAX : 886-2-8601-3789
E-Mail : info.tw@dekra.com

FCC Accreditation Number: TW3023

1.6. List of Test Equipment

For Conducted measurements /CB3/SR8

	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
	Temperature Chamber	WIT GROUP	TH-1S-B	EQ-201-00146	2018/02/12	2019/02/11
X	Spectrum Analyzer	Agilent	N9010A	MY48030495	2017/10/13	2018/10/12
X	Peak Power Analyzer	Keysight	8990B	MY51000410	2018/08/01	2019/07/31
X	Wideband Power Sensor	Keysight	N1923A	MY56080003	2018/07/25	2019/07/24
X	Wideband Power Sensor	Keysight	N1923A	MY56080004	2018/07/25	2019/07/24
X	EMI Test Receiver	R&S	ESCS 30	100369	2017/11/07	2018/11/06
X	LISN	R&S	ESH3-Z5	836679/017	2018/02/09	2019/02/08
X	LISN	R&S	ENV216	100097	2018/02/09	2019/02/08
X	Coaxial Cable	DEKRA	RG 400	LC018-RG	2018/06/21	2019/06/20

For Radiated measurements /Site3/CB8

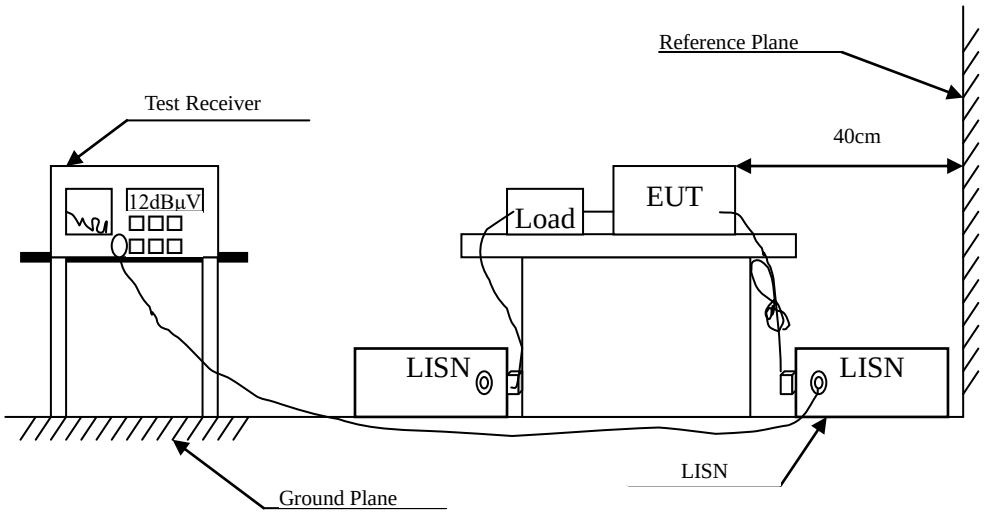
	Equipment	Manufacturer	Model No.	Serial No.	Cali. Date	Due. Date
X	Spectrum Analyzer	R&S	FSP40	100170	2018/03/12	2019/03/11
	Loop Antenna	Teseq	HLA6121	37133	2017/10/13	2019/10/12
X	Bilog Antenna	Schaffner Chase	CBL6112B	2707	2018/06/24	2019/06/23
X	Coaxial Cable	DEKRA	RG 214	LC003-RG	2018/06/14	2019/06/13
X	Pre-Amplifier	Jet-Power	JPA-10M1G33	170101000330 010	2018/06/14	2019/06/13
X	Horn Antenna	ETS-Lindgren	3117	00135205	2018/05/03	2019/05/02
X	Horn Antenna	SCHWARZBECK	9120D	576	2017/11/30	2018/11/29
X	Pre-Amplifier	EMCI	EMC012630SE	980210	2018/04/10	2019/04/09
	Horn Antenna	Com-Power	AH-840	101043	2018/01/09	2019/01/08
	Amplifier + Cable	EMCI	EMC184045SE	980370	2018/03/21	2019/03/20
X	Filter	MICRO-TRONICS	BRM50702	G270	2018/08/06	2019/08/05
	Filter	MICRO-TRONICS	BRM50716	G196	2018/08/06	2019/08/05

Note:

1. All equipments are calibrated every one year.
2. The test instruments marked with “X” are used to measure the final test results.
3. Test Software version :QuieTek EMI 2.0 V2.1.113.

2. Conducted Emission

2.1. Test Setup



2.2. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBμV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

2.3. Test Procedure

The EUT and Peripherals are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

2.4. Uncertainty

± 2.26 dB

2.5. Test Result of Conducted Emission

Product : VUZE-XR Camera
Test Item : Conducted Emission Test
Power Line : Line 1
Test date : 2018/09/04
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.162	9.745	38.240	47.985	-17.672	65.657
0.173	9.742	36.860	46.602	-18.741	65.343
0.193	9.738	33.840	43.578	-21.193	64.771
0.494	9.750	31.960	41.710	-14.461	56.171
3.599	9.882	21.260	31.142	-24.858	56.000
9.259	10.048	18.060	28.108	-31.892	60.000
Average					
0.162	9.745	24.650	34.395	-21.262	55.657
0.173	9.742	23.790	33.532	-21.811	55.343
0.193	9.738	21.430	31.168	-23.603	54.771
0.494	9.750	22.710	32.460	-13.711	46.171
3.599	9.882	10.300	20.182	-25.818	46.000
9.259	10.048	12.110	22.158	-27.842	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : VUZE-XR Camera
Test Item : Conducted Emission Test
Power Line : Line 2
Test date : 2018/09/04
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.154	9.738	37.600	47.338	-18.548	65.886
0.170	9.737	36.360	46.097	-19.332	65.429
0.181	9.737	33.540	43.277	-21.837	65.114
0.494	9.740	29.120	38.860	-17.311	56.171
3.341	9.866	21.420	31.286	-24.714	56.000
3.611	9.872	24.880	34.752	-21.248	56.000
Average					
0.154	9.738	10.620	20.358	-35.528	55.886
0.170	9.737	24.040	33.777	-21.652	55.429
0.181	9.737	22.660	32.397	-22.717	55.114
0.494	9.740	24.520	34.260	-11.911	46.171
3.341	9.866	15.590	25.456	-20.544	46.000
3.611	9.872	6.790	16.662	-29.338	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : VUZE-XR Camera
Test Item : Conducted Emission Test
Power Line : Line 1
Test date : 2018/09/04
Test Mode : Mode 3: Charge mode

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 1					
Quasi-Peak					
0.166	9.744	26.100	35.844	-29.699	65.543
0.185	9.738	25.040	34.778	-30.222	65.000
0.228	9.739	21.040	30.779	-32.992	63.771
0.439	9.748	22.060	31.808	-25.935	57.743
0.521	9.751	29.980	39.731	-16.269	56.000
0.865	9.775	19.060	28.835	-27.165	56.000
Average					
0.166	9.744	16.640	26.384	-29.159	55.543
0.185	9.738	14.120	23.858	-31.142	55.000
0.228	9.739	13.310	23.049	-30.722	53.771
0.439	9.748	16.390	26.138	-21.605	47.743
0.521	9.751	25.650	35.401	-10.599	46.000
0.865	9.775	15.010	24.785	-21.215	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : VUZE-XR Camera
Test Item : Conducted Emission Test
Power Line : Line 2
Test date : 2018/09/04
Test Mode : Mode 3: Charge mode

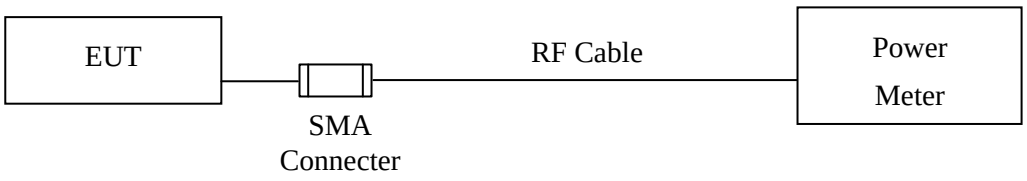
Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV	dB	dBµV
LINE 2					
Quasi-Peak					
0.177	9.737	22.600	32.337	-32.892	65.229
0.193	9.738	23.040	32.778	-31.993	64.771
0.252	9.740	18.960	28.700	-34.386	63.086
0.283	9.740	18.500	28.240	-33.960	62.200
0.517	9.741	20.900	30.641	-25.359	56.000
0.861	9.765	15.520	25.285	-30.715	56.000
Average					
0.177	9.737	11.260	20.997	-34.232	55.229
0.193	9.738	13.310	23.048	-31.723	54.771
0.252	9.740	4.440	14.180	-38.906	53.086
0.283	9.740	13.780	23.520	-28.680	52.200
0.517	9.741	15.110	24.851	-21.149	46.000
0.861	9.765	9.480	19.245	-26.755	46.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. " " means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Peak Power Output

3.1. Test Setup



3.2. Limit

For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

3.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

3.4. Uncertainty

± 1.19 dB

3.5. Test Result of Peak Power Output

Product : VUZE-XR Camera
Test Item : Peak Power Output
Test Site : No.3 OATS
Test date : 2018/09/14
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
Channel 00	2402.00	3.69	0.125W = 20.97dBm	Pass
Channel 39	2441.00	3.42	0.125W = 20.97dBm	Pass
Channel 78	2480.00	2.97	0.125W = 20.97dBm	Pass

Note: For AFH mode using 20 hopping channels,the maximum output power limit is 0.125W.

Product : VUZE-XR Camera
Test Item : Peak Power Output
Test Site : No.3 OATS
Test date : 2018/09/14
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

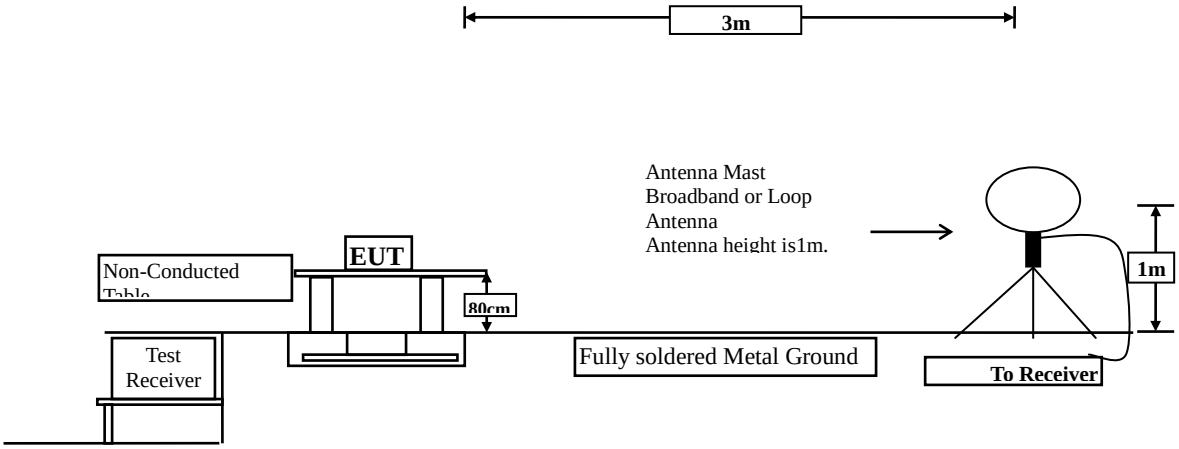
Channel No.	Frequency (MHz)	Measurement (dBm)	Required Limit	Result
Channel 00	2402.00	-1.71	0.125W = 20.97dBm	Pass
Channel 39	2441.00	-1.58	0.125W = 20.97dBm	Pass
Channel 78	2480.00	-2.23	0.125W = 20.97dBm	Pass

Note: For AFH mode using 20 hopping channels,the maximum output power limit is 0.125W.

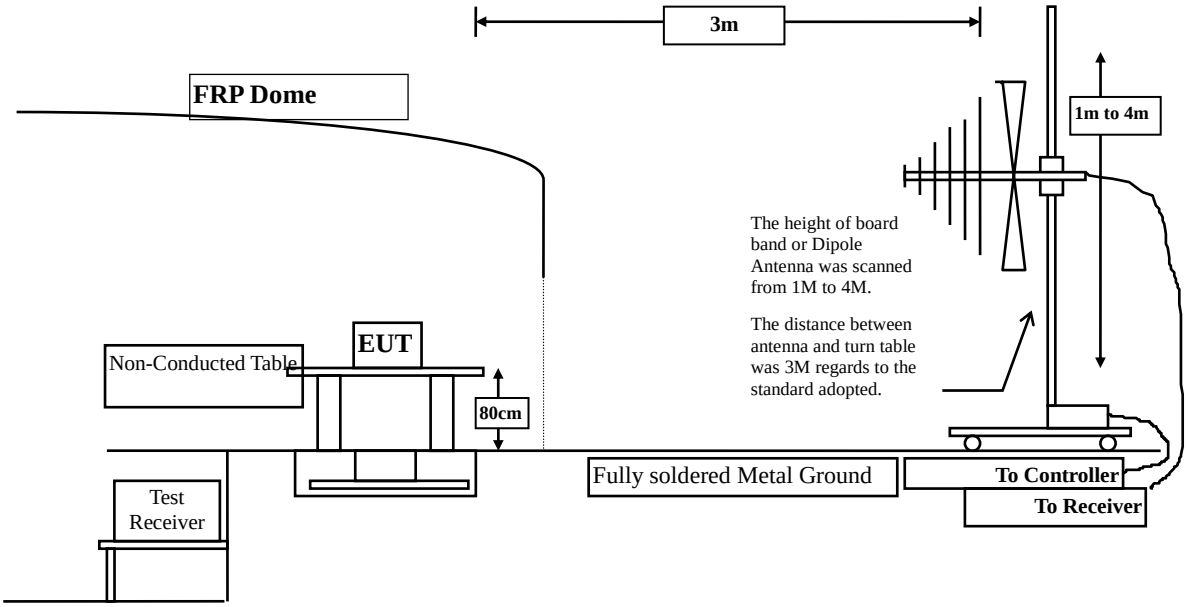
4. Radiated Emission

4.1. Test Setup

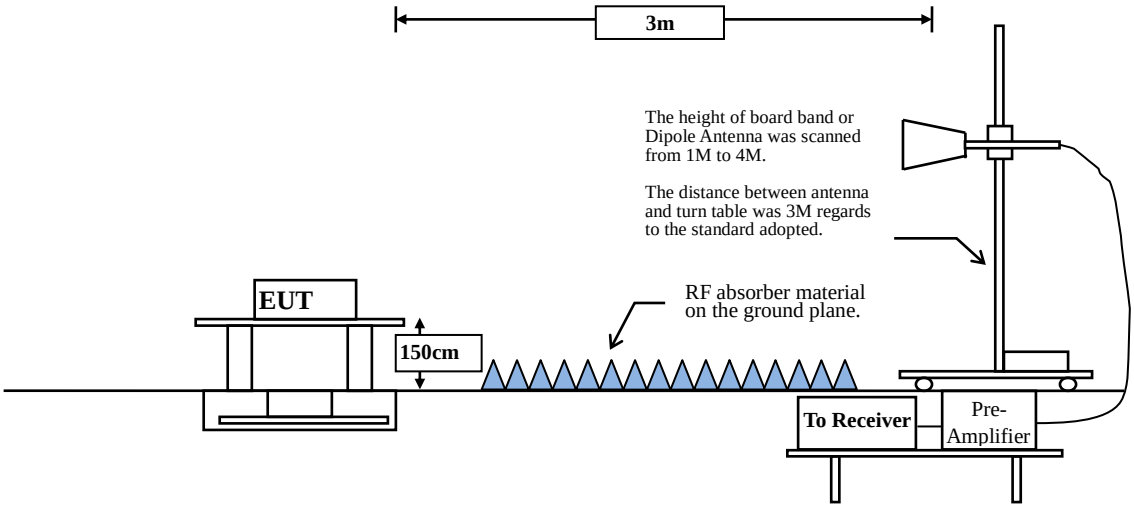
Under 30MHz



Below 1GHz



Above 1GHz



4.2. Limits

➢ **General Radiated Emission Limits**

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks: 1. RF Voltage (dBμV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

4.3. Test Procedure

The EUT was setup according to ANSI C63.10, 2013 and tested compliance to FCC 47CFR 15.247 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground,when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 360 degrees to determine the position of the maximum emission level.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range form 9kHz - 10th Harmonic of fundamental was investigated.

4.4. Uncertainty

± 4.08 dB above 1GHz

± 4.22 dB below 1GHz

4.5. Test Result of Radiated Emission

Product : VUZE-XR Camera
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test date : 2018/09/03
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2402MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4804.000	2.511	43.930	46.440	-27.560	74.000
7206.000	9.511	42.810	52.321	-21.679	74.000
9608.000	10.394	42.030	52.424	-21.576	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4804.000	2.923	44.200	47.122	-26.878	74.000
7206.000	9.988	42.490	52.479	-21.521	74.000
9608.000	10.847	41.860	52.707	-21.293	74.000
Average					
Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test date : 2018/09/03
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4882.000	2.025	44.390	46.415	-27.585	74.000
7323.000	9.762	42.280	52.041	-21.959	74.000
9764.000	9.682	41.090	50.771	-23.229	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4882.000	2.488	43.530	46.018	-27.982	74.000
7323.000	10.375	42.750	53.124	-20.876	74.000
9764.000	10.315	41.350	51.665	-22.335	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test date : 2018/09/03
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4960.000	2.582	43.260	45.842	-28.158	74.000
7440.000	10.555	40.750	51.305	-22.695	74.000
9920.000	10.206	43.230	53.436	-20.564	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4960.000	3.398	42.920	46.319	-27.681	74.000
7440.000	11.214	41.270	52.484	-21.516	74.000
9920.000	11.245	42.100	53.345	-20.655	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test date : 2018/09/03
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)(2402MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4804.000	2.511	42.820	45.330	-28.670	74.000
7206.000	9.511	42.710	52.221	-21.779	74.000
9608.000	10.394	42.260	52.654	-21.346	74.000
Average					
Detector:					
--					
Vertical					
Peak Detector:					
4804.000	2.923	43.100	46.022	-27.978	74.000
7206.000	9.988	43.520	53.509	-20.491	74.000
9608.000	10.847	41.950	52.797	-21.203	74.000
Average					
Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test date : 2018/09/03
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4882.000	2.025	44.430	46.455	-27.545	74.000
7323.000	9.762	42.600	52.361	-21.639	74.000
9764.000	9.682	41.360	51.041	-22.959	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4882.000	2.488	43.740	46.228	-27.772	74.000
7323.000	10.375	42.600	52.974	-21.026	74.000
9764.000	10.315	41.510	51.825	-22.175	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera
Test Item : Harmonic Radiated Emission
Test Site : No.3 OATS
Test date : 2018/09/03
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2480MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
Peak Detector:					
4960.000	2.582	43.010	45.592	-28.408	74.000
7440.000	10.555	40.700	51.255	-22.745	74.000
9920.000	10.206	43.310	53.516	-20.484	74.000
Average Detector:					
--					
Vertical					
Peak Detector:					
4960.000	3.398	42.960	46.359	-27.641	74.000
7440.000	11.214	40.990	52.204	-21.796	74.000
9920.000	11.245	42.460	53.705	-20.295	74.000
Average Detector:					
--					

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test date : 2018/09/04
Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
105.913	-7.662	34.391	26.729	-16.771	43.500
164.957	-9.943	36.665	26.722	-16.778	43.500
419.406	-0.249	36.061	35.812	-10.188	46.000
491.101	1.527	32.073	33.600	-12.400	46.000
713.217	3.793	27.195	30.989	-15.011	46.000
791.942	6.389	28.803	35.192	-10.808	46.000
Vertical					
44.058	-10.725	37.594	26.868	-13.132	40.000
107.319	-4.107	35.029	30.922	-12.578	43.500
378.638	0.816	26.492	27.308	-18.692	46.000
540.304	2.156	25.229	27.385	-18.615	46.000
614.812	1.709	26.331	28.040	-17.960	46.000
791.942	2.684	32.485	35.169	-10.831	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : VUZE-XR Camera
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test date : 2018/09/04
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2441MHz)

Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBµV	dBµV/m	dB	dBµV/m
Horizontal					
107.319	-7.605	35.056	27.452	-16.048	43.500
419.406	-0.249	36.502	36.253	-9.747	46.000
491.101	1.527	33.549	35.076	-10.924	46.000
565.609	1.958	26.920	28.878	-17.122	46.000
713.217	3.793	27.615	31.409	-14.591	46.000
791.942	6.389	29.346	35.735	-10.265	46.000
Vertical					
104.507	-4.889	34.806	29.917	-13.583	43.500
179.014	-0.878	26.177	25.300	-18.200	43.500
377.232	0.644	25.949	26.593	-19.407	46.000
540.304	2.156	24.223	26.379	-19.621	46.000
614.812	1.709	25.683	27.392	-18.608	46.000
791.942	2.684	28.828	31.512	-14.488	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.
8. No emission found between lowest internal used/generated frequency to 30MHz.

Product : VUZE-XR Camera
Test Item : General Radiated Emission
Test Site : No.3 OATS
Test date : 2018/09/04
Test Mode : Mode 3: Charge mode

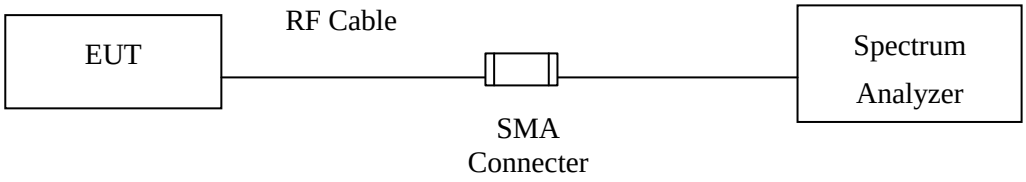
Frequency	Correct Factor	Reading Level	Measurement Level	Margin	Limit
MHz	dB	dBμV	dBμV/m	dB	dBμV/m
Horizontal					
299.913	-4.722	29.052	24.330	-21.670	46.000
419.406	-0.249	36.481	36.232	-9.768	46.000
467.203	3.297	27.358	30.655	-15.345	46.000
614.812	3.005	24.731	27.736	-18.264	46.000
713.217	3.793	26.823	30.617	-15.383	46.000
791.942	6.389	30.026	36.415	-9.585	46.000
Vertical					
59.522	-11.334	42.950	31.617	-8.383	40.000
381.449	0.721	26.893	27.615	-18.385	46.000
540.304	2.156	25.284	27.440	-18.560	46.000
614.812	1.709	24.189	25.898	-20.102	46.000
791.942	2.684	28.467	31.151	-14.849	46.000
900.188	1.948	24.752	26.700	-19.300	46.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. Measurement Level = Reading Level + Correct Factor.
5. Correct Factor = Antenna factor + Cable loss –Amplifier gain.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The emission levels of other frequencies are very lower than the limit and not show in test report.

5. RF Antenna Conducted Test

5.1. Test Setup



5.2. Limits

According to FCC Section 15.247(d). In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.

5.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

5.4. Uncertainty

± 1.20dB

5.5. Test Result of RF Antenna Conducted Test

Product	:	VUZE-XR Camera
Test Item	:	RF Antenna Conducted Test
Test Site	:	No.3 OATS
Test date	:	2018/09/14
Test Mode	:	Mode 1: Transmit - 1Mbps (GFSK)

Figure Channel 00:

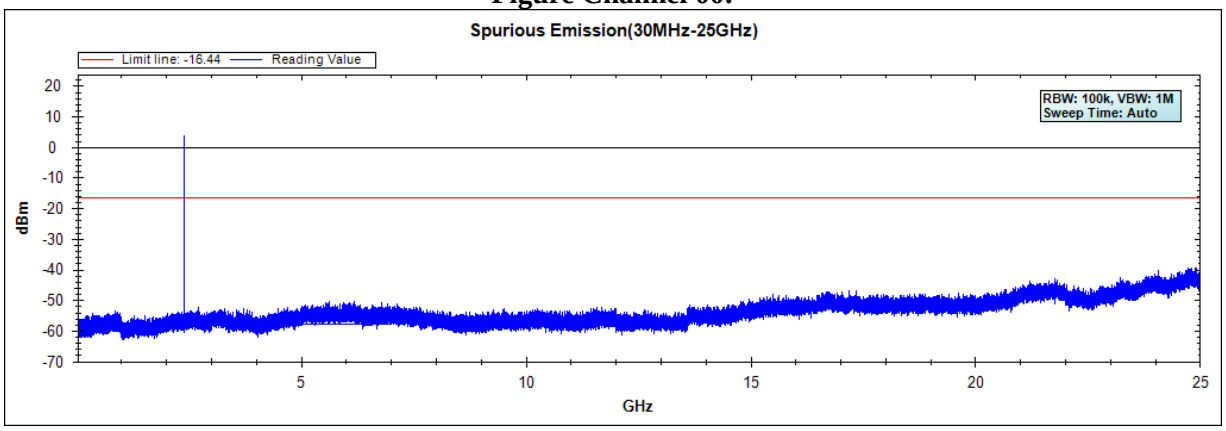


Figure Channel 39:

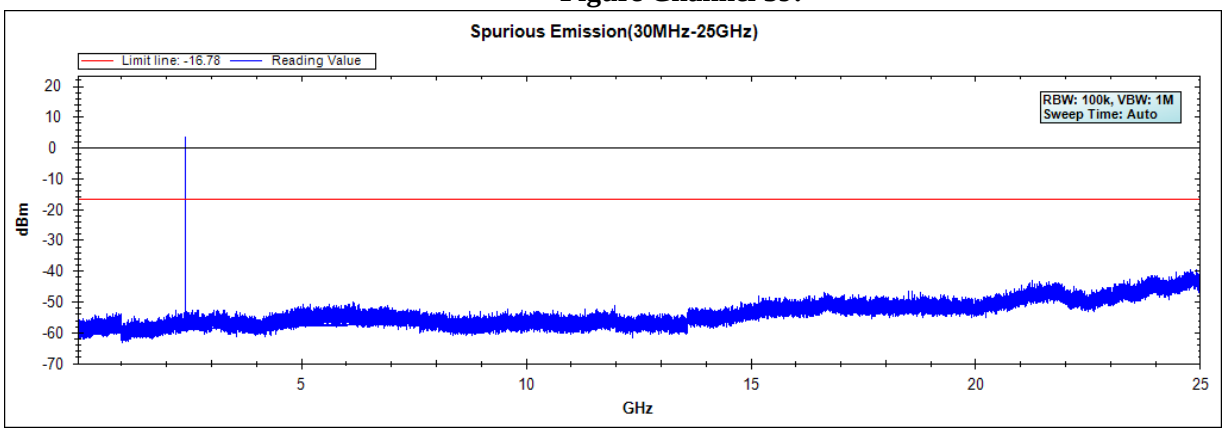
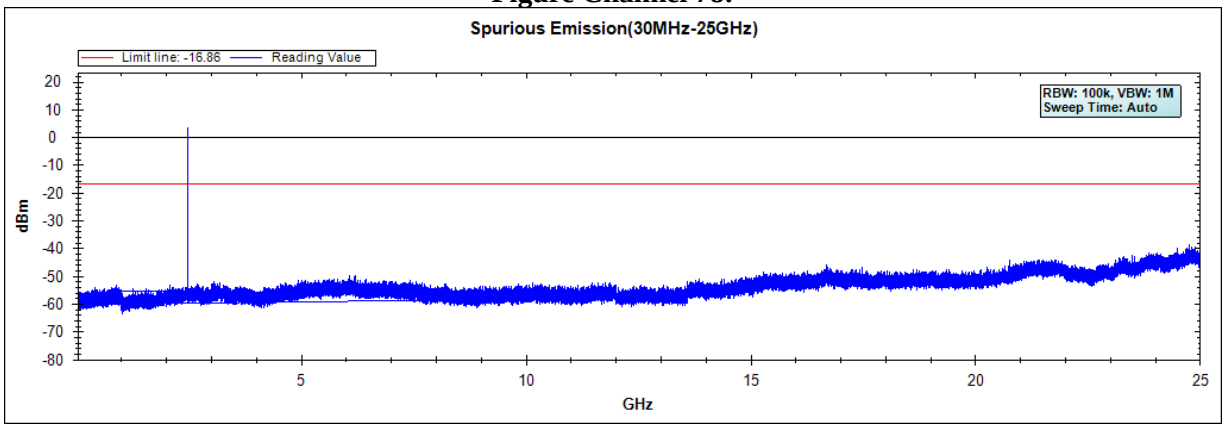


Figure Channel 78:



Note: The above test pattern is synthesized by multiple of the frequency range.

Product	:	VUZE-XR Camera
Test Item	:	RF Antenna Conducted Test
Test Site	:	No.3 OATS
Test date	:	2018/09/14
Test Mode	:	Mode 2: Transmit - 3Mbps (8DPSK)

Figure Channel 00:

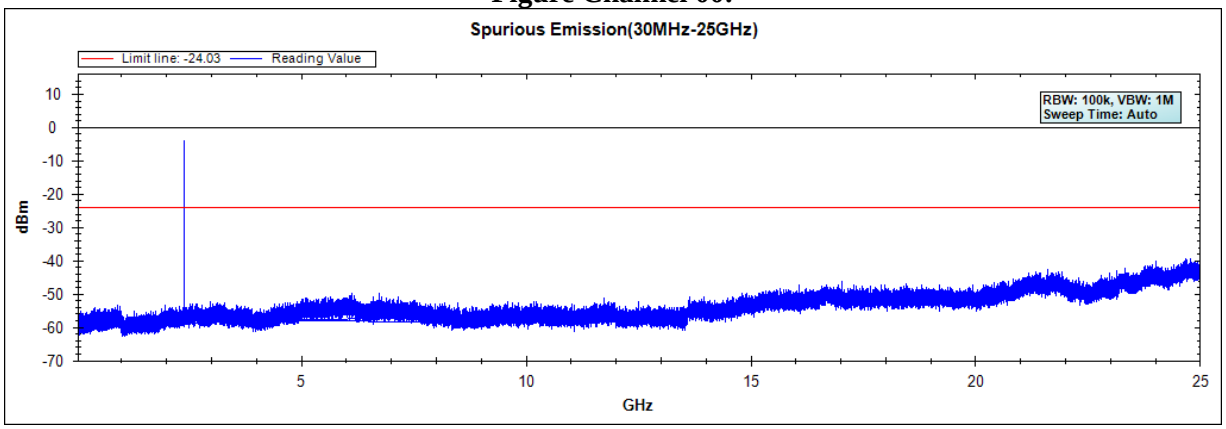


Figure Channel 39:

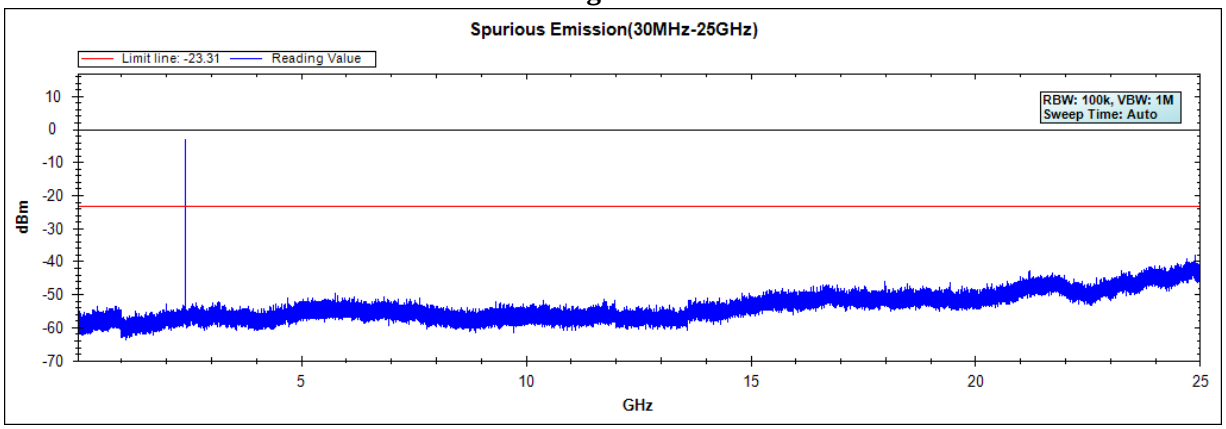
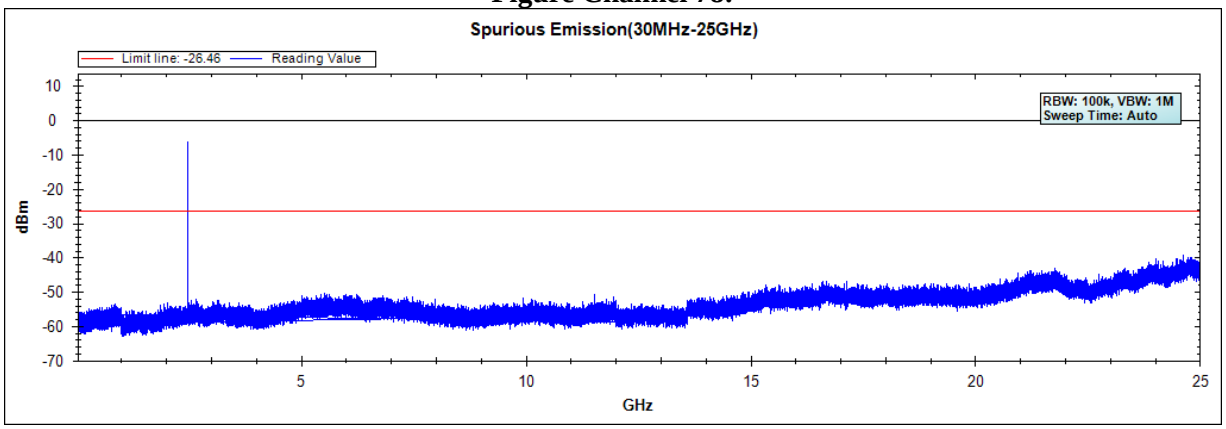


Figure Channel 78:



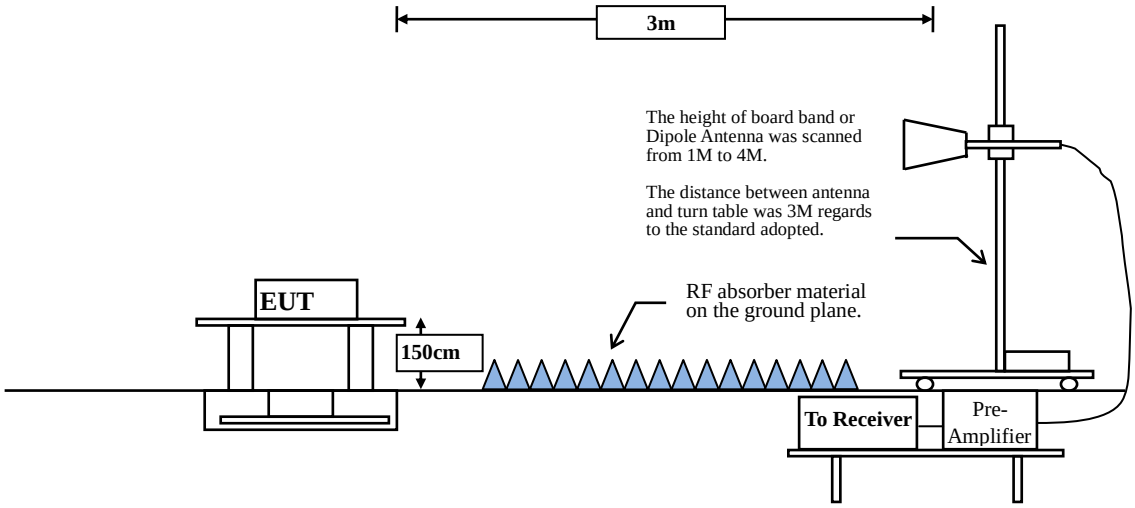
Note: The above test pattern is synthesized by multiple of the frequency range.

6. Band Edge

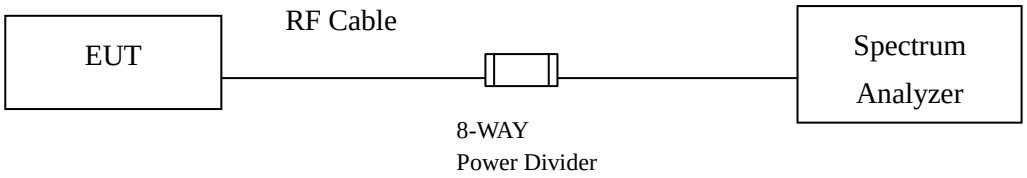
6.1. Test Setup

RF Radiated Measurement:

Above 1GHz



RF Conducted Measurement



6.2. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

6.3. Test Procedure

The EUT is placed on a turn table which is 1.5 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.
The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.
Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.10: 2013 on radiated measurement.
The bandwidth setting below 1GHz and above 1GHz on the field strength meter is 120 kHz and 1MHz, respectively.

6.4. Uncertainty

± 4.08 dB above 1GHz
± 4.22 dB below 1GHz

6.5. Test Result of Band Edge

Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test date : 2018/09/08
Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2402MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Arerage Limit (dBμV/m)	Result
00 (Peak)	2390.000	-2.687	50.909	48.222	74.00	54.00	Pass
00 (Peak)	2400.000	-2.660	66.751	64.091	--	--	--
00 (Peak)	2402.100	-2.657	98.458	95.801	--	--	--
00 (Average)	2390.000	-2.687	38.403	35.716	74.00	54.00	Pass
00 (Average)	2400.000	-2.660	51.364	48.704	--	--	--
00 (Average)	2402.000	-2.657	98.226	95.569	--	--	--

Figure Channel 00: Horizontal (Peak)

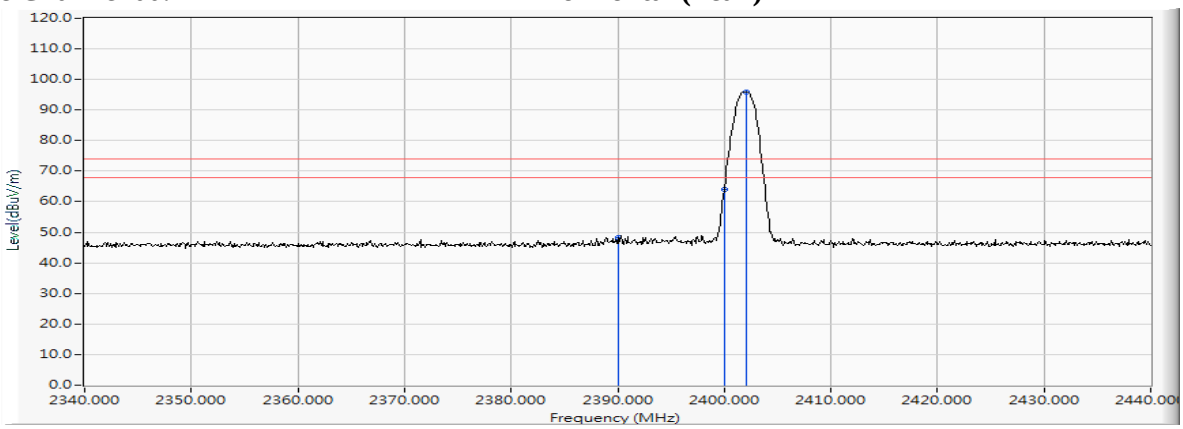
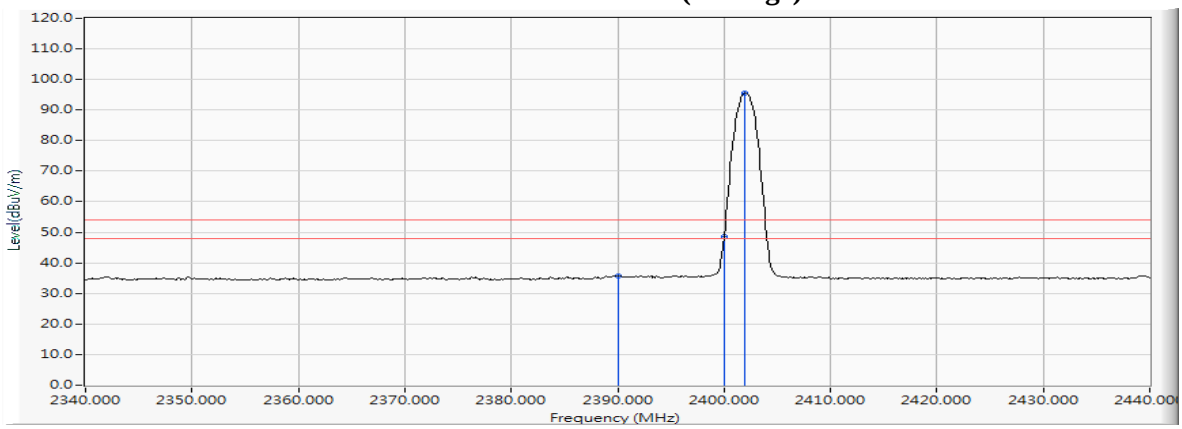


Figure Channel 00: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test date : 2018/09/08
Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2402MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Arerage Limit (dBμV/m)	Result
00 (Peak)	2390.000	-4.159	47.549	43.390	74.00	54.00	Pass
00 (Peak)	2400.000	-4.171	63.020	58.849	--	--	--
00 (Peak)	2401.800	-4.171	95.950	91.779	--	--	--
00 (Average)	2390.000	-4.159	37.487	33.328	74.00	54.00	Pass
00 (Average)	2400.000	-4.171	49.219	45.048	--	--	--
00 (Average)	2402.000	-4.171	95.728	91.557	--	--	--

Figure Channel 00: VERTICAL (Peak)

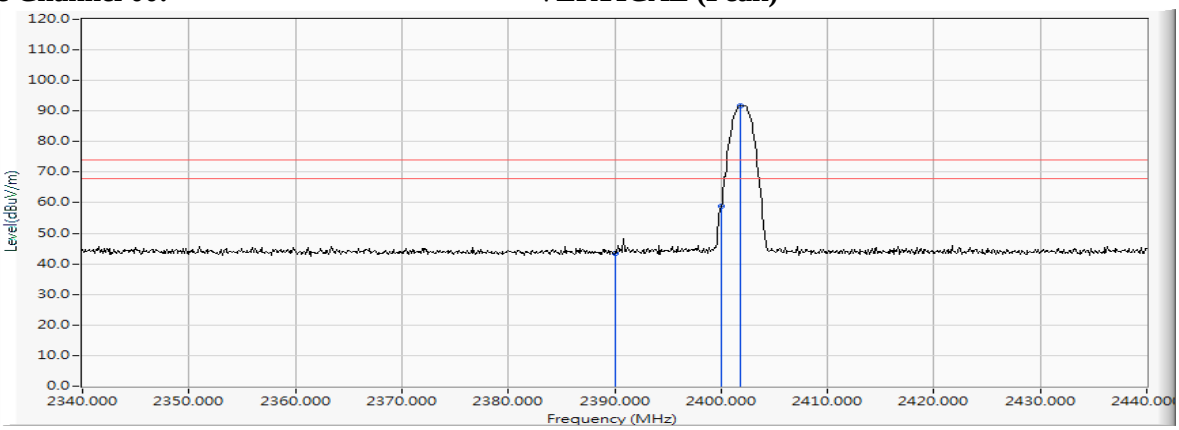
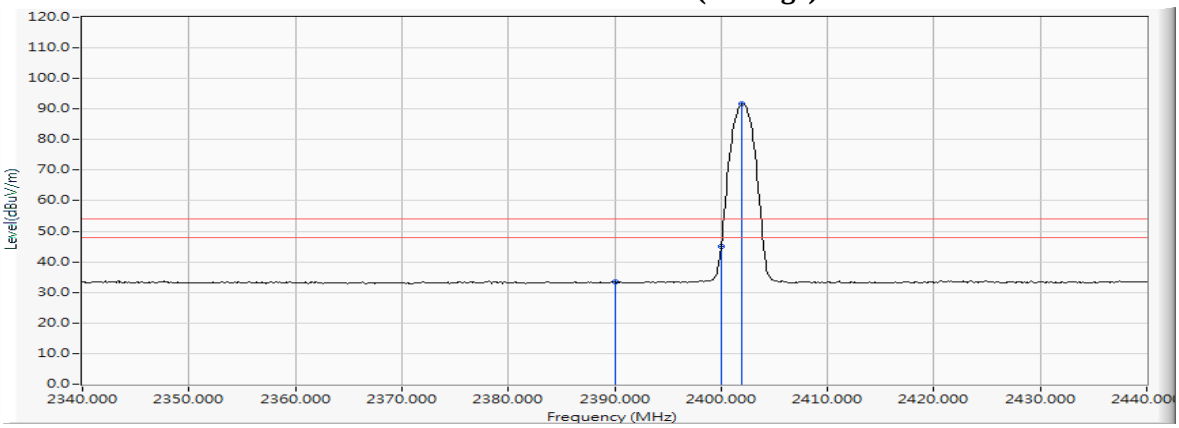


Figure Channel 00: VERTICAL (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test date : 2018/09/08
Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2480MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Arerage Limit (dBμV/m)	Result
78 (Peak)	2479.800	-2.605	98.075	95.470	--	--	Pass
78 (Peak)	2483.500	-2.601	48.617	46.015	74.00	54.00	Pass
78 (Average)	2480.000	-2.605	97.773	95.168	--	--	Pass
78 (Average)	2483.500	-2.601	37.552	34.950	74.00	54.00	Pass

Figure Channel 78: Horizontal (Peak)

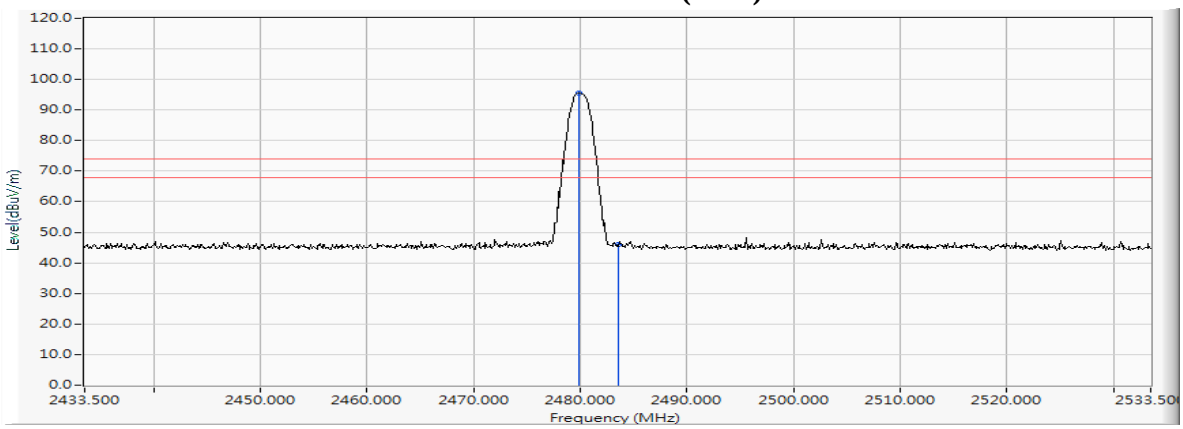
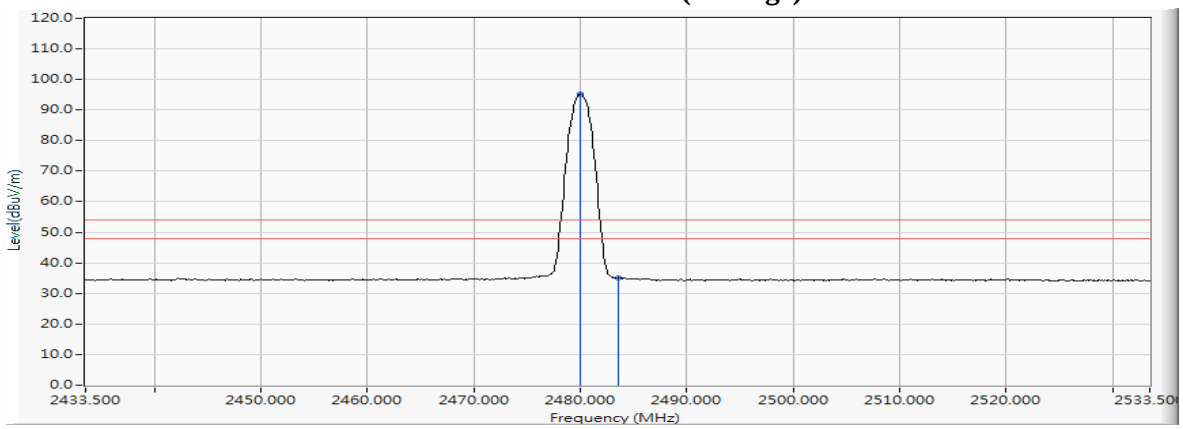


Figure Channel 78: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test date : 2018/09/08
Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (2480MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Arerage Limit (dBμV/m)	Result
78 (Peak)	2479.800	-3.978	96.077	92.099	--	--	Pass
78 (Peak)	2483.500	-3.966	47.874	43.907	74.00	54.00	Pass
78 (Average)	2480.000	-3.978	95.747	91.769	--	--	Pass
78 (Average)	2483.500	-3.966	37.432	33.465	74.00	54.00	Pass

Figure Channel 78: VERTICAL (Peak)

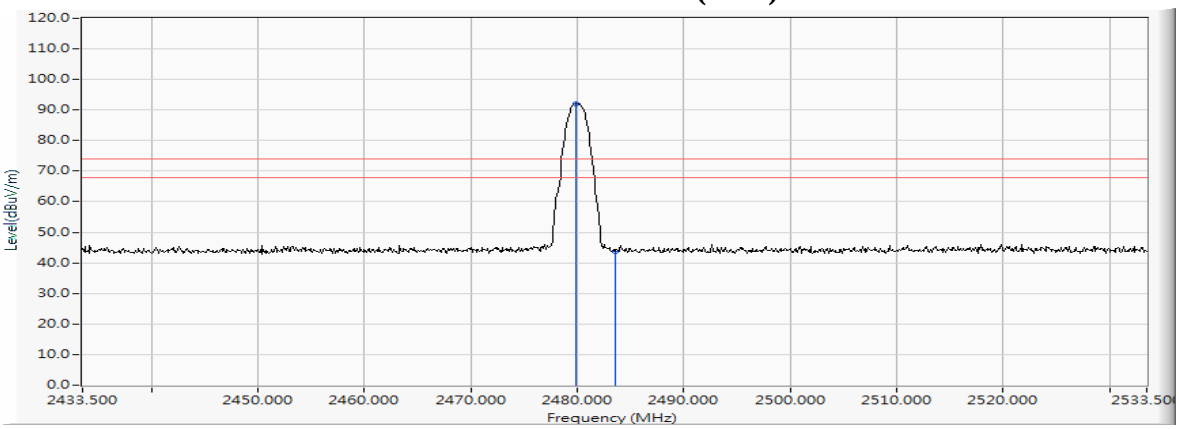
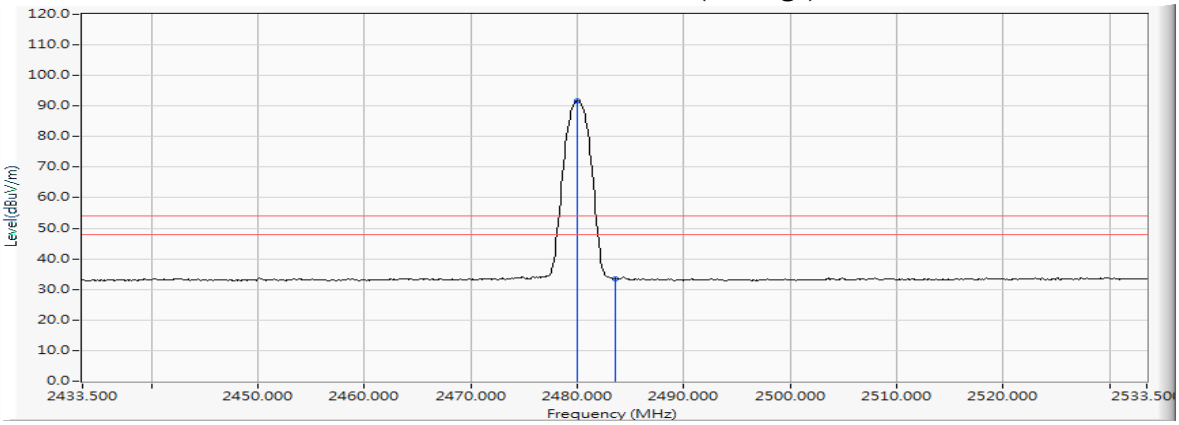


Figure Channel 78: VERTICAL (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test date : 2018/09/08
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2402MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Arerage Limit (dBμV/m)	Result
00 (Peak)	2390.000	-2.687	49.121	46.434	74.00	54.00	Pass
00 (Peak)	2400.000	-2.660	64.702	62.042	--	--	--
00 (Peak)	2401.900	-2.658	94.724	92.066	--	--	--
00 (Average)	2390.000	-2.687	37.702	35.015	74.00	54.00	Pass
00 (Average)	2400.000	-2.660	54.617	51.957	--	--	--
00 (Average)	2402.000	-2.657	91.274	88.617	--	--	--

Figure Channel 00: Horizontal (Peak)

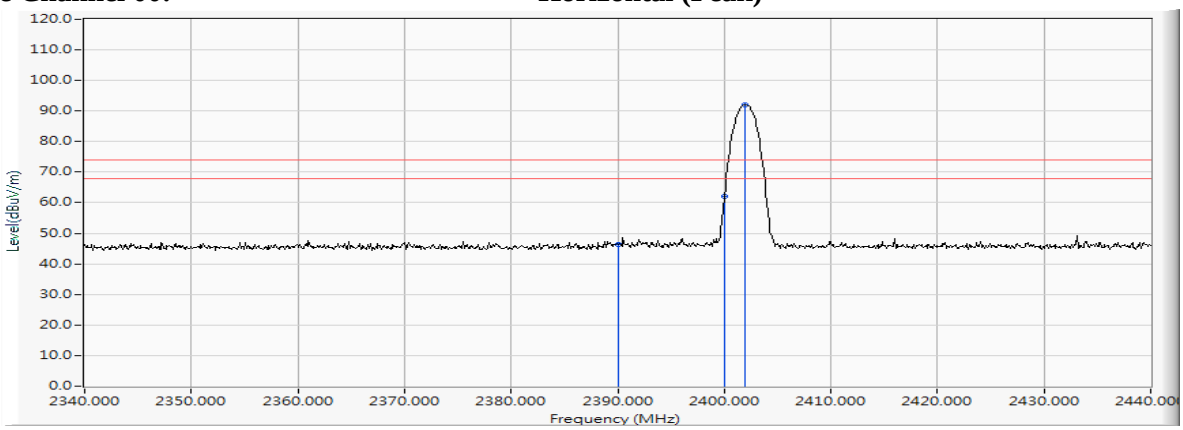
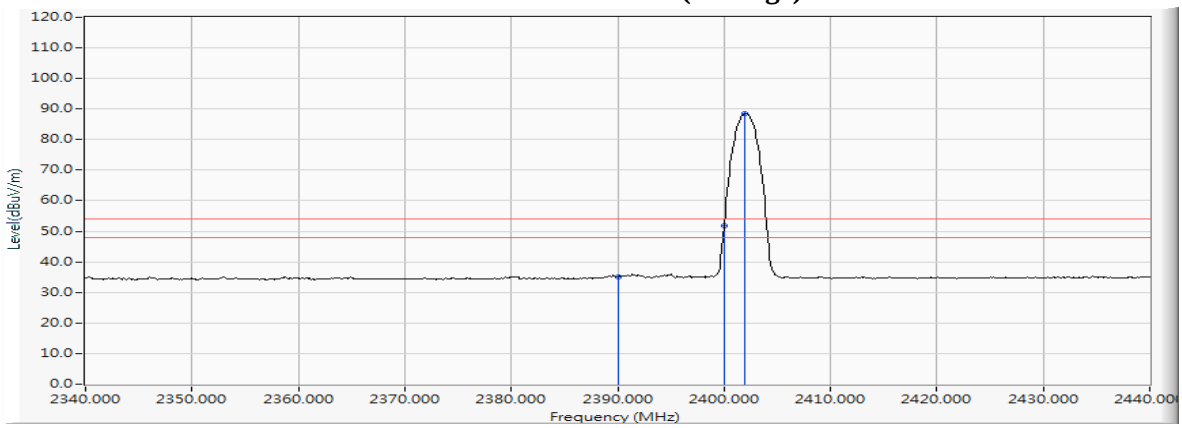


Figure Channel 00: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test date : 2018/09/08
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2402MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Arerage Limit (dBμV/m)	Result
00 (Peak)	2390.000	-4.159	47.751	43.592	74.00	54.00	Pass
00 (Peak)	2400.000	-4.171	61.344	57.173	--	--	--
00 (Peak)	2402.000	-4.171	92.218	88.047	--	--	--
00 (Average)	2390.000	-4.159	37.521	33.362	74.00	54.00	Pass
00 (Average)	2400.000	-4.171	52.441	48.270	--	--	--
00 (Average)	2402.000	-4.171	88.782	84.611	--	--	--

Figure Channel 00: VERTICAL (Peak)

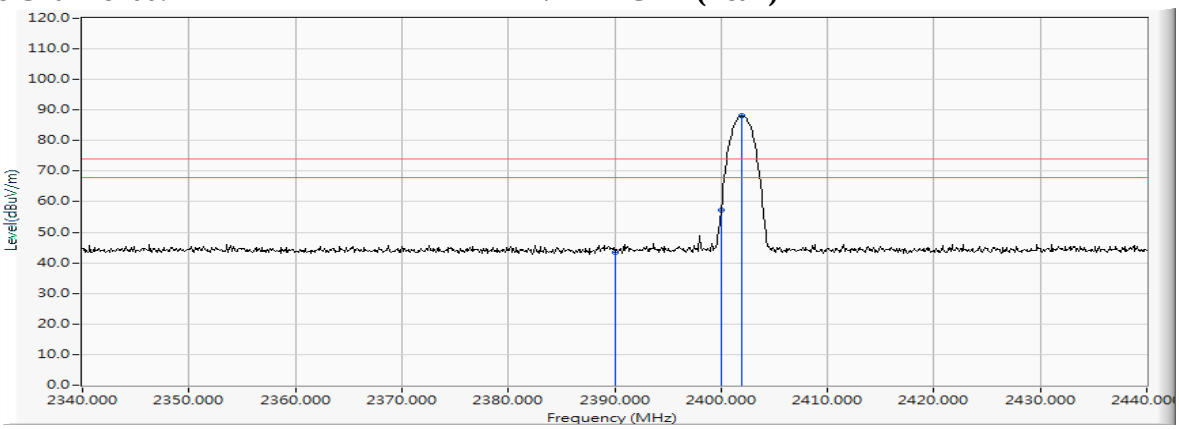
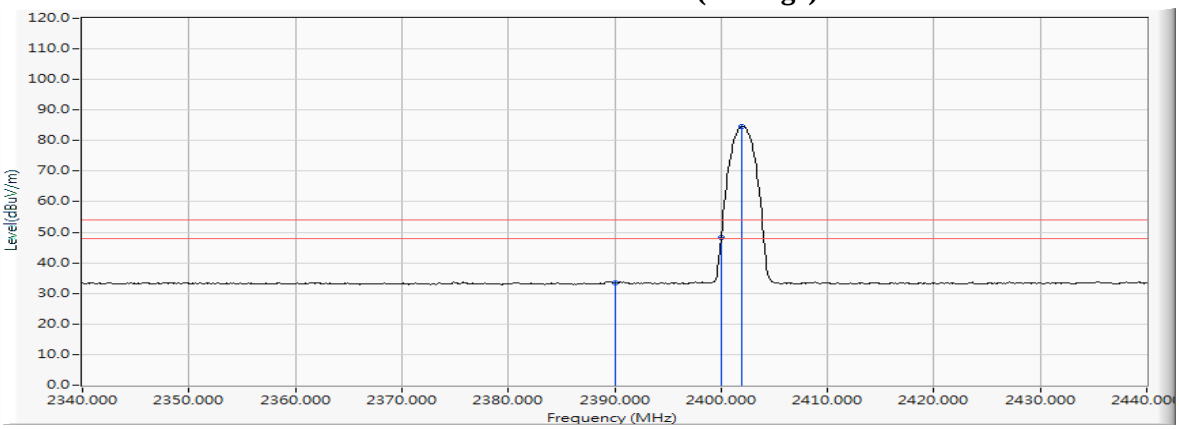


Figure Channel 00: VERTICAL (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test date : 2018/09/08
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2480MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Arerage Limit (dBμV/m)	Result
78 (Peak)	2480.000	-2.605	94.101	91.496	--	--	Pass
78 (Peak)	2483.500	-2.601	47.426	44.824	74.00	54.00	Pass
78 (Average)	2480.000	-2.605	90.700	88.095	--	--	Pass
78 (Average)	2483.500	-2.601	37.149	34.547	74.00	54.00	Pass

Figure Channel 00: Horizontal (Peak)

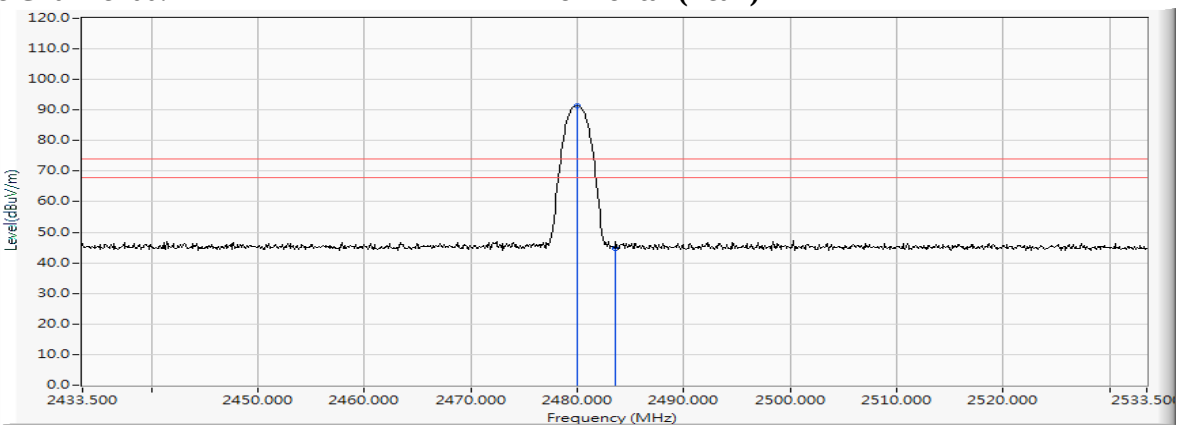
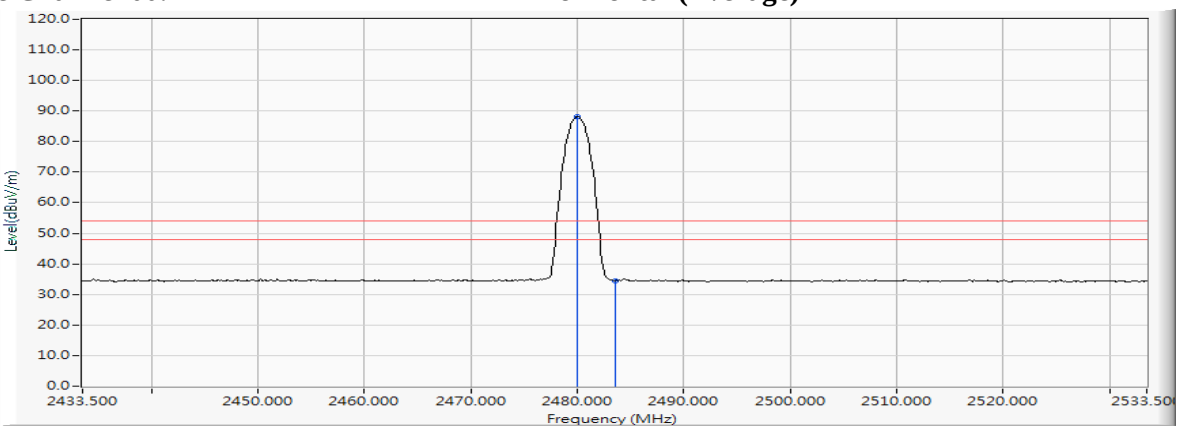


Figure Channel 00: Horizontal (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test date : 2018/09/08
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2480MHz)

RF Radiated Measurement (VERTICAL):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBμV)	Emission Level (dBμV/m)	Peak Limit (dBμV/m)	Arerage Limit (dBμV/m)	Result
78 (Peak)	2479.900	-3.978	92.060	88.082	--	--	Pass
78 (Peak)	2483.500	-3.966	48.113	44.146	74.00	54.00	Pass
78 (Average)	2480.000	-3.978	88.682	84.704	--	--	Pass
78 (Average)	2483.500	-3.966	37.385	33.418	74.00	54.00	Pass

Figure Channel 78: VERTICAL (Peak)

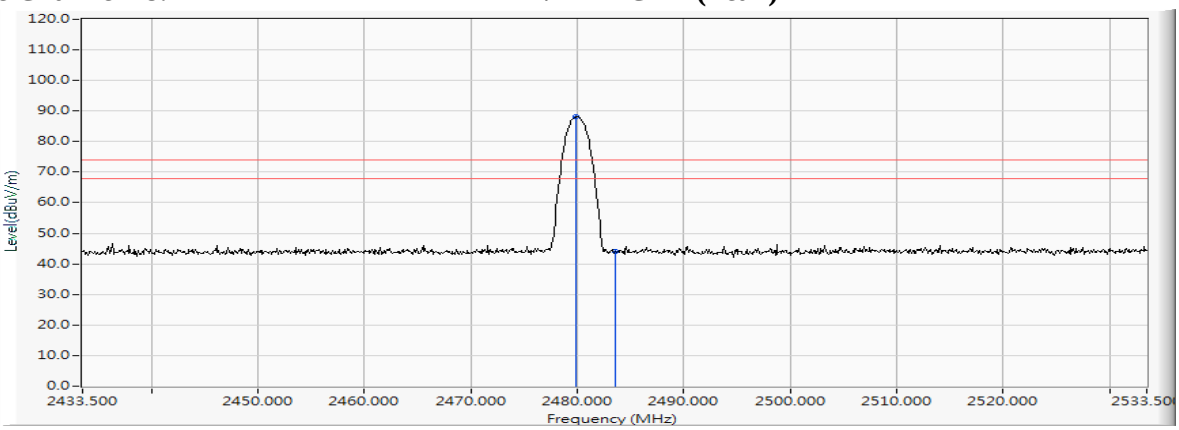
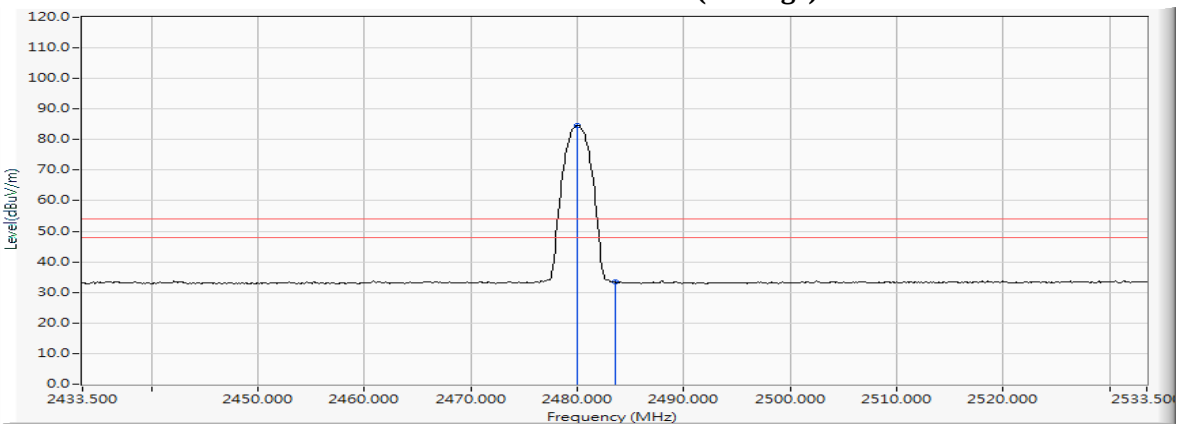


Figure Channel 78: VERTICAL (Average)



Note:
1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. " * ", means this data is the worst emission level.
5. Measurement Level = Reading Level + Correction Factor.
6. The average measurement was not performed when the peak measured data is under the limit of average detection.

Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(Hopping off)

Measurement Level Δ (dB)	Result
> 20	PASS

Figure Channel 00:

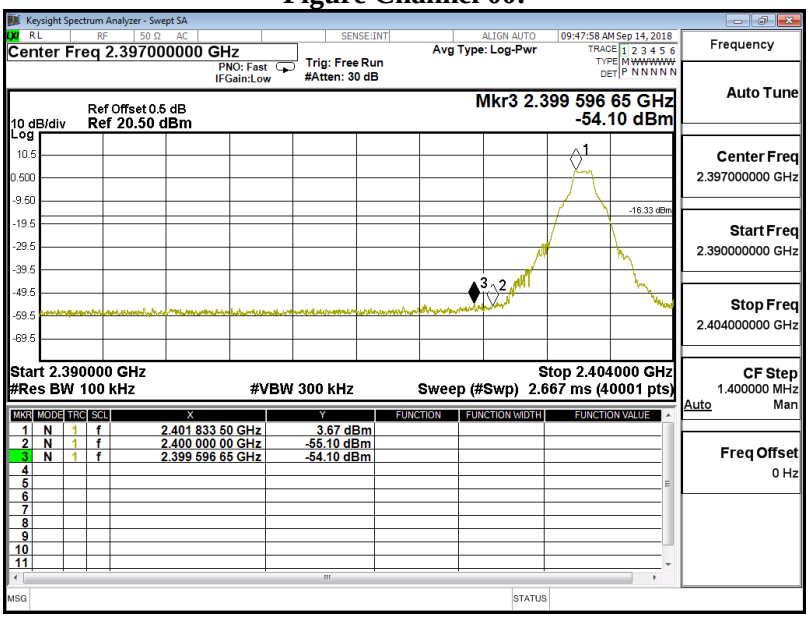
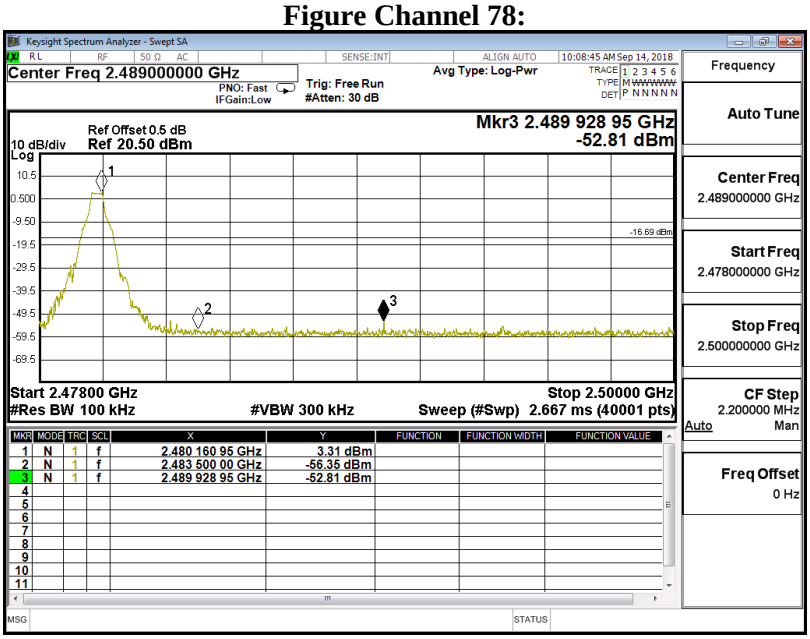


Figure Channel 78:



Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (Hopping off)

Measurement Level Δ (dB)	Result
> 20	PASS

Figure Channel 00:

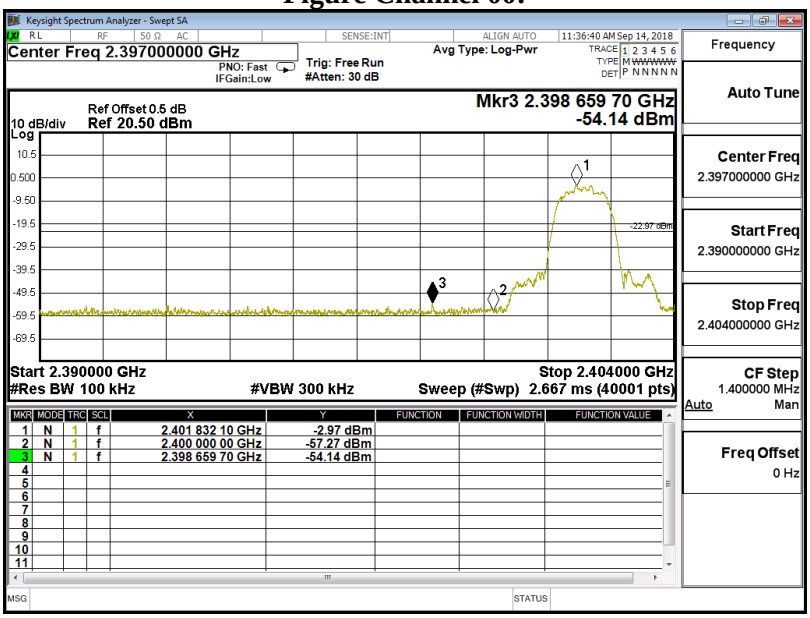
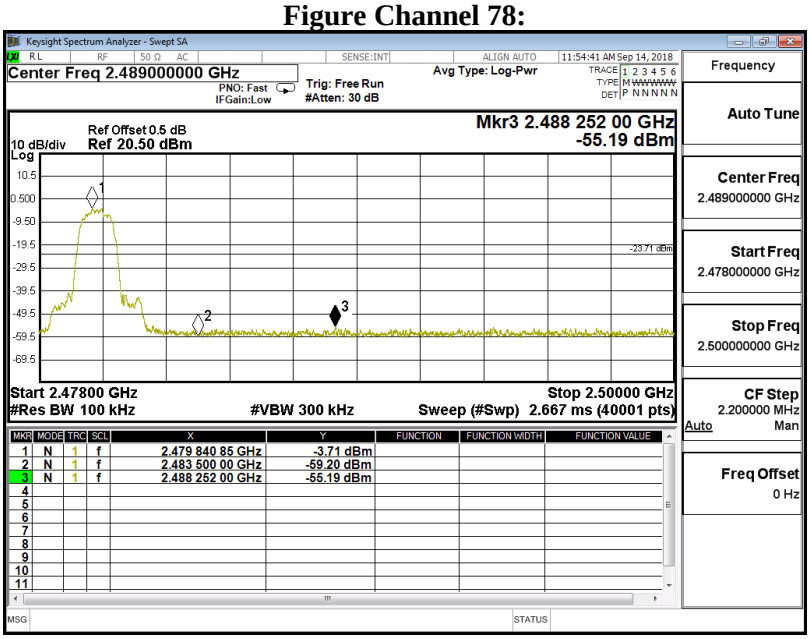


Figure Channel 78:



Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)(Hopping on)

Measurement Level Δ (dB)	Result
> 20	PASS

Figure Channel 00 Hopping:

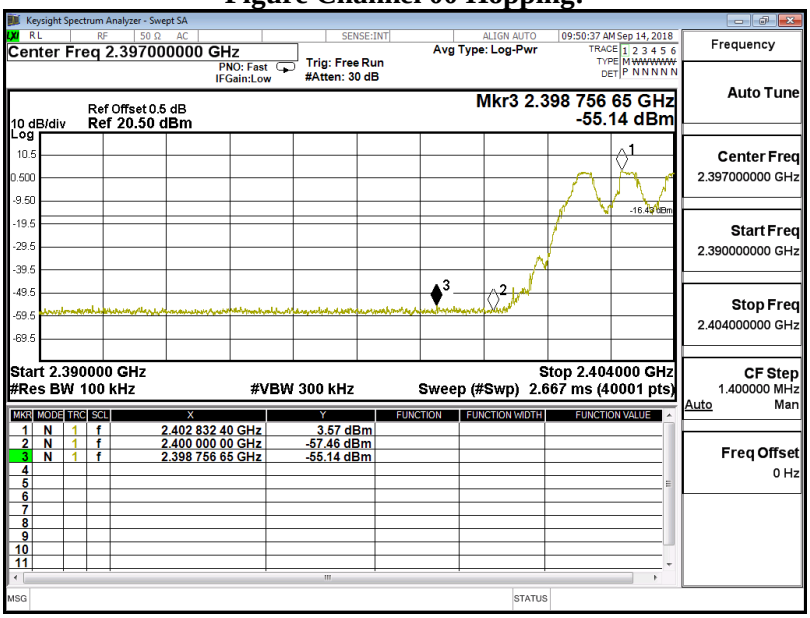
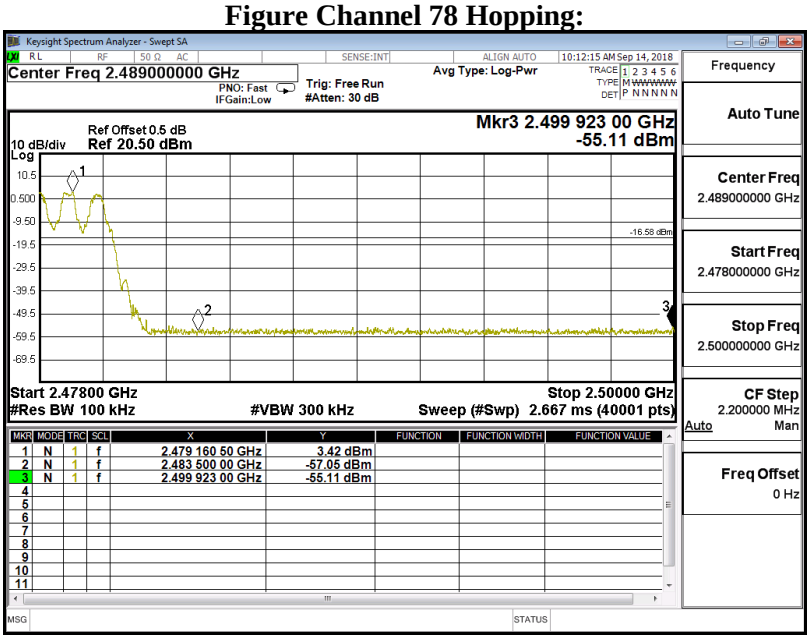


Figure Channel 78 Hopping:



Product : VUZE-XR Camera
Test Item : Band Edge
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (Hopping on)

Measurement Level Δ (dB)	Result
> 20	PASS

Figure Channel 00 Hopping:

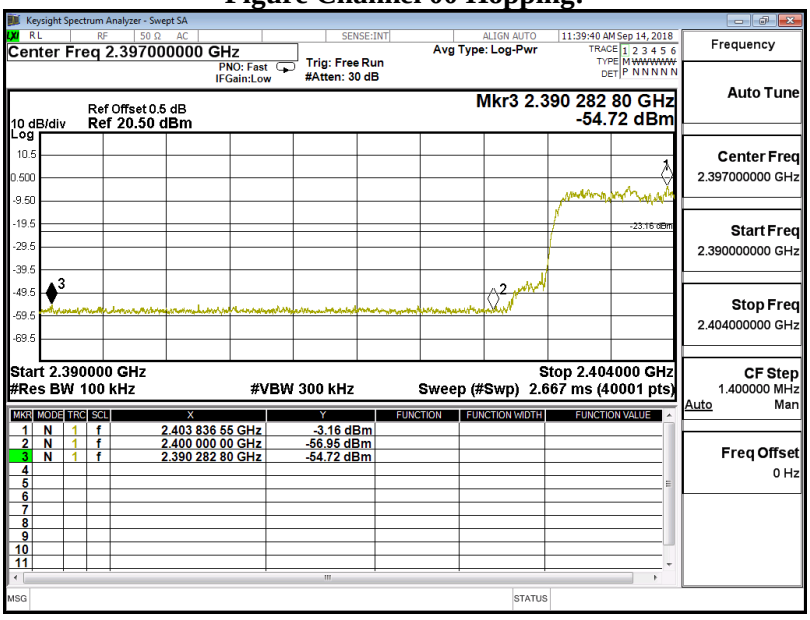
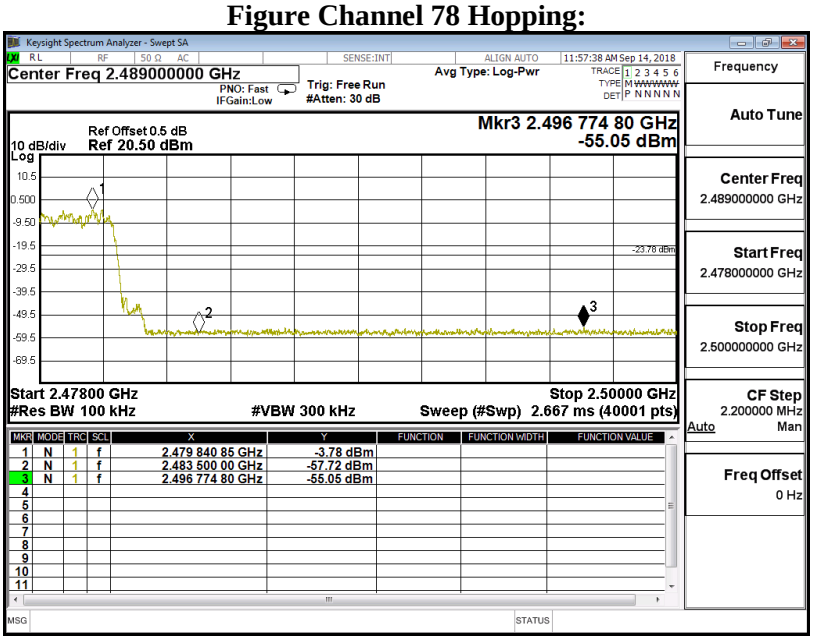
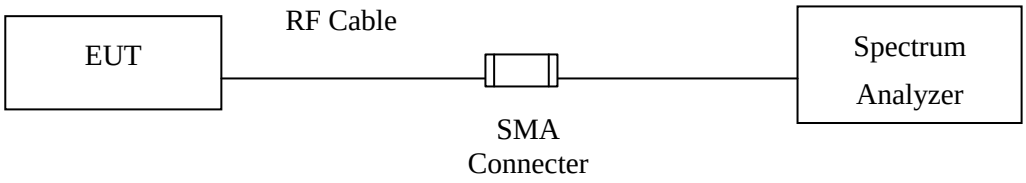


Figure Channel 78 Hopping:



7. Channel Number

7.1. Test Setup



7.2. Limit

Frequency hopping systems operating in the 2400-2483.5 MHz bands shall use at least 15 hopping frequencies.

7.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

7.4. Uncertainty

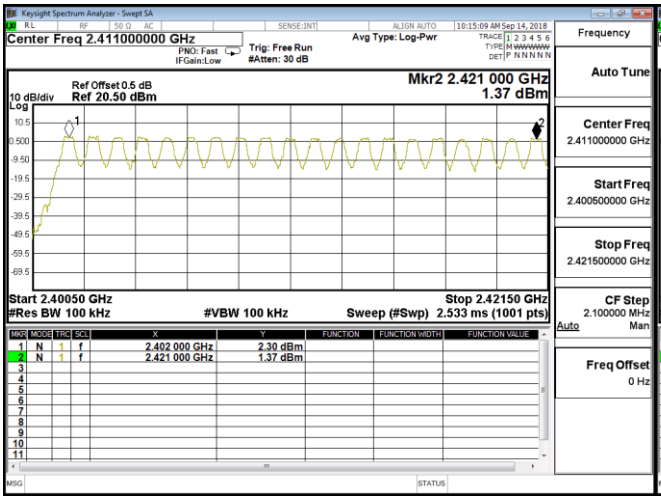
N/A

7.5. Test Result of Channel Number

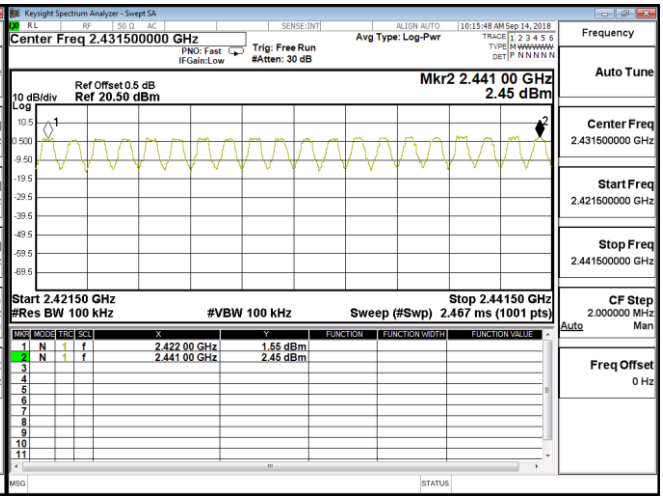
Product : VUZE-XR Camera
Test Item : Channel Number
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

Frequency Range (MHz)	Measurement (Hopping Channel)	Required Limit (Hopping Channel)	Result
2402 ~ 2480	79	>15	Pass

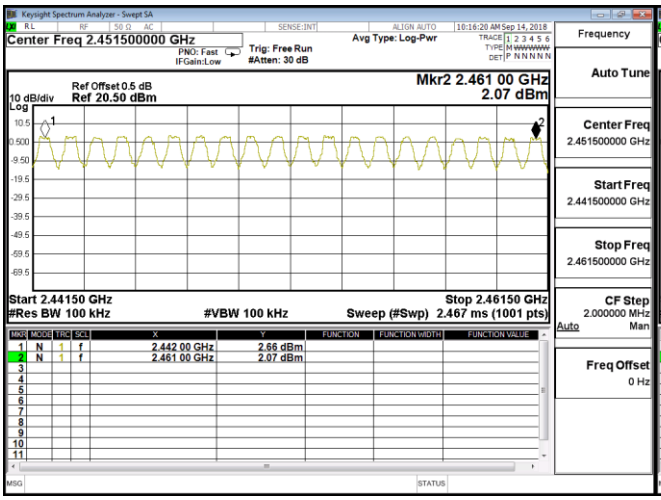
2402-2421MHz



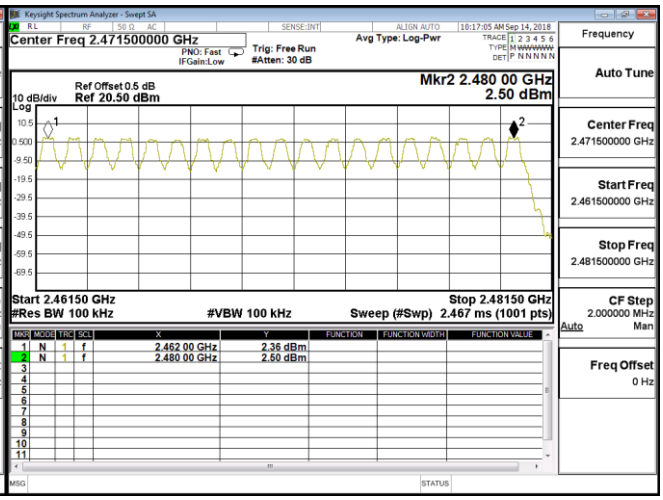
2422-2441MHz



2442-2461MHz



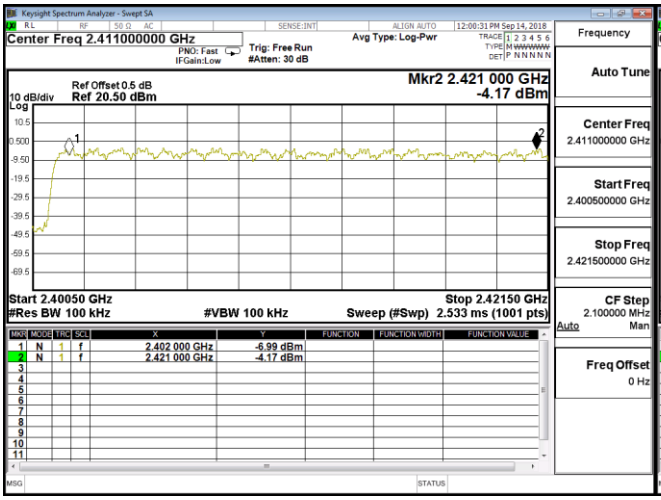
2462-2480MHz



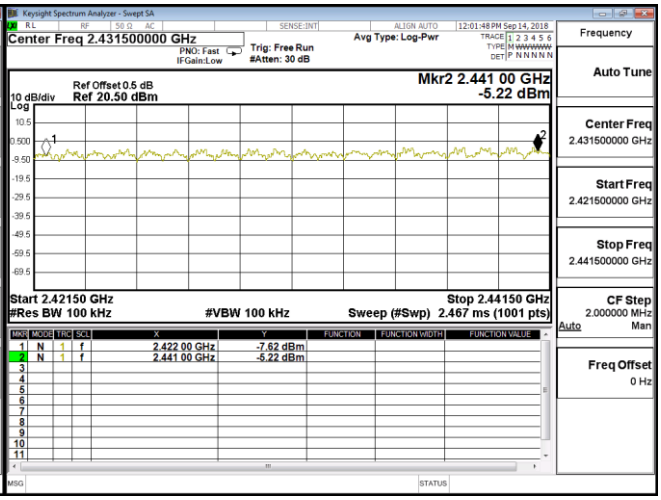
Product : VUZE-XR Camera
Test Item : Channel Number
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

Frequency Range (MHz)	Measurement (Hopping Channel)	Required Limit (Hopping Channel)	Result
2402 ~ 2480	79	>15	Pass

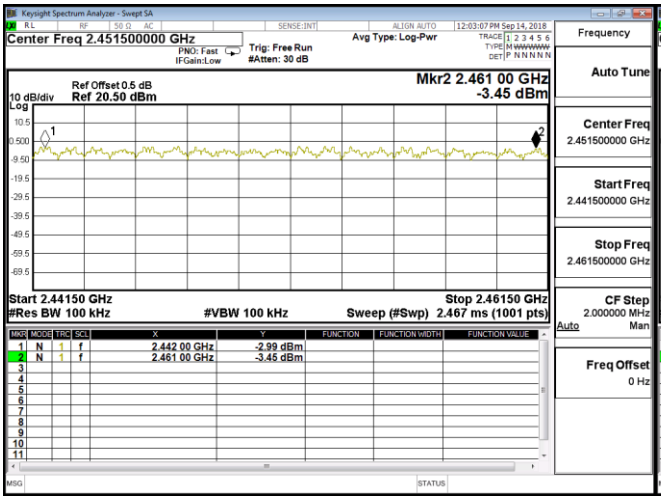
2402-2421MHz



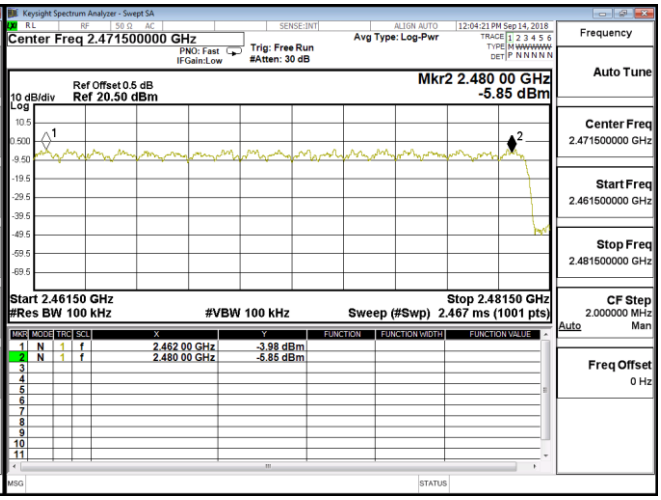
2422-2441MHz



2442-2461MHz

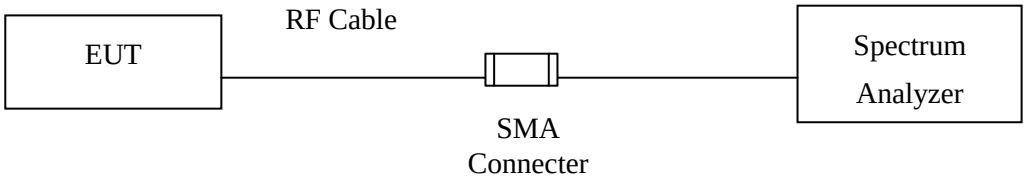


2462-2480MHz



8. Channel Separation

8.1. Test Setup



8.2. Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater.

8.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

8.4. Uncertainty

± 283Hz

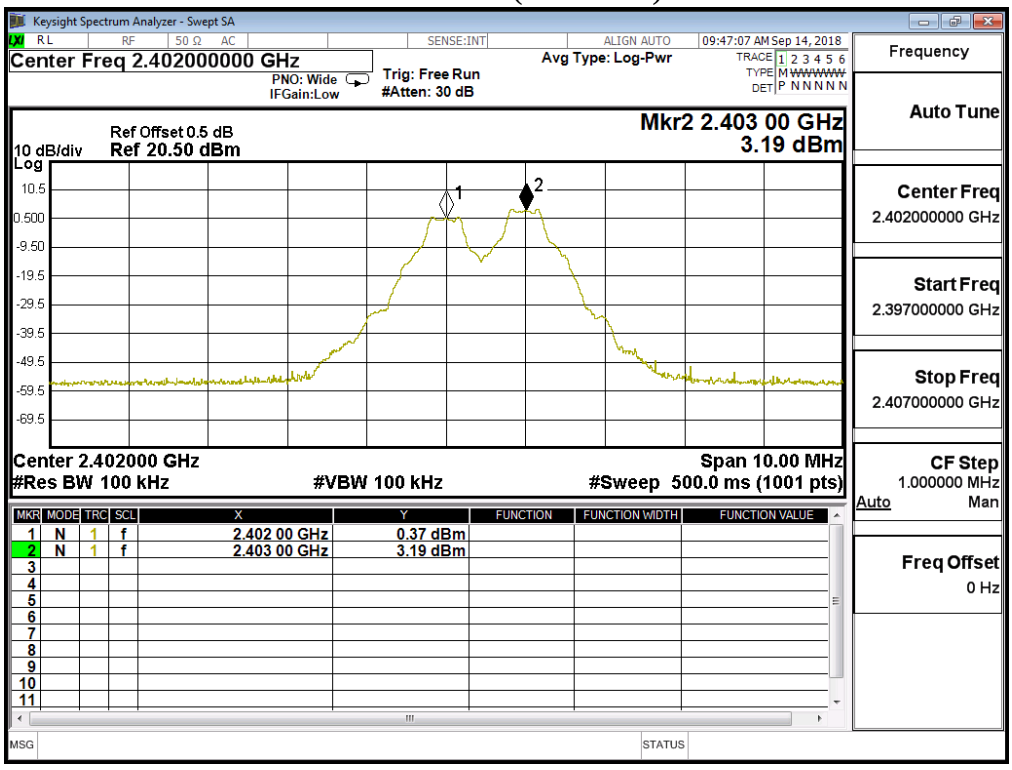
8.5. Test Result of Channel Separation

Product : VUZE-XR Camera
Test Item : Channel Separation
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

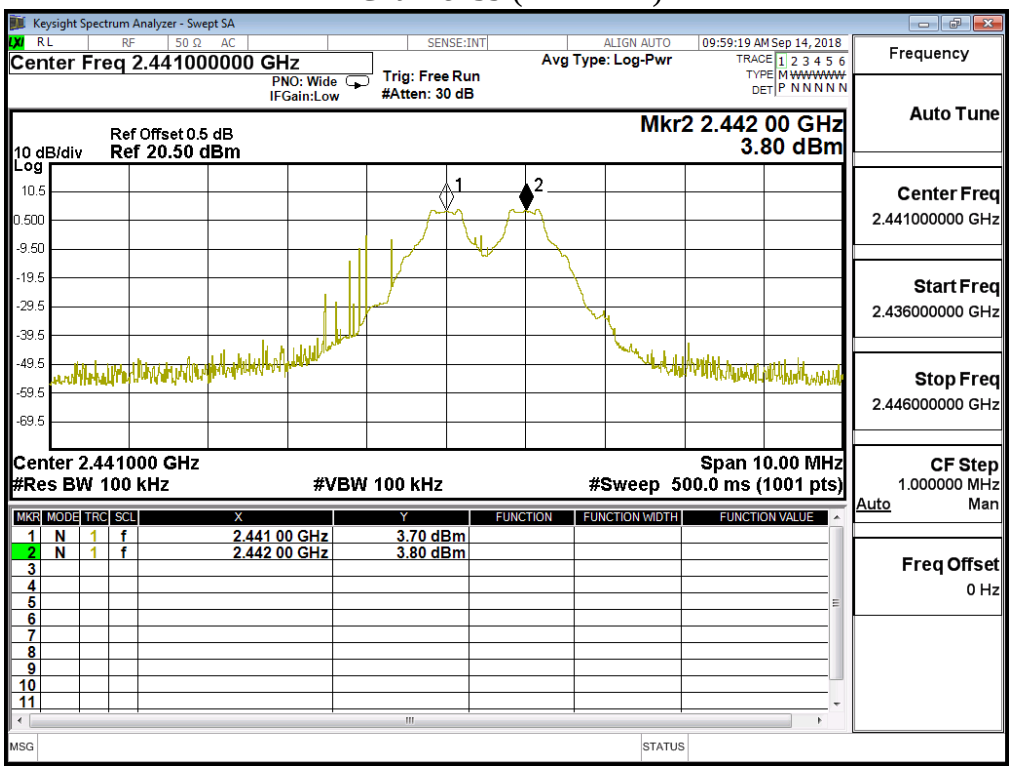
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Limit (kHz)	Limit of (2/3)*20dB Bandwidth (kHz)	Result
00	2402	1000	>25 kHz	628.0	Pass
39	2441	1000	>25 kHz	626.0	Pass
78	2480	1000	>25 kHz	622.0	Pass

NOTE: The 20dB Bandwidth is refer to section 10.

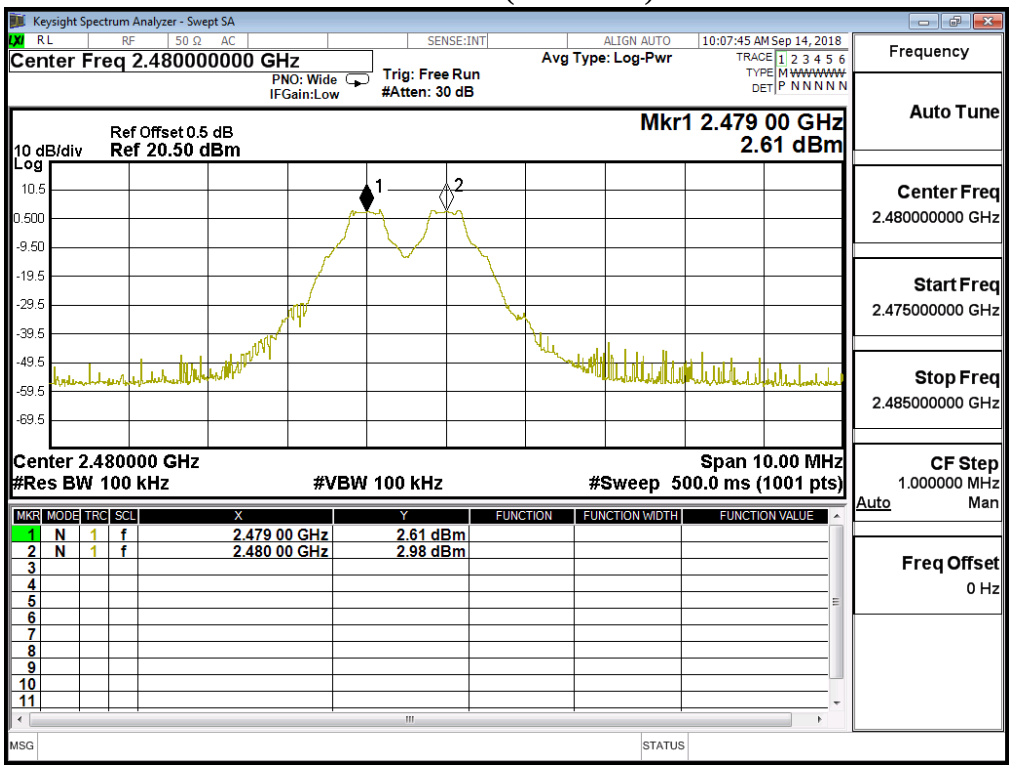
Channel 00 (2402MHz)



Channel 39 (2441MHz)



Channel 78 (2480MHz)

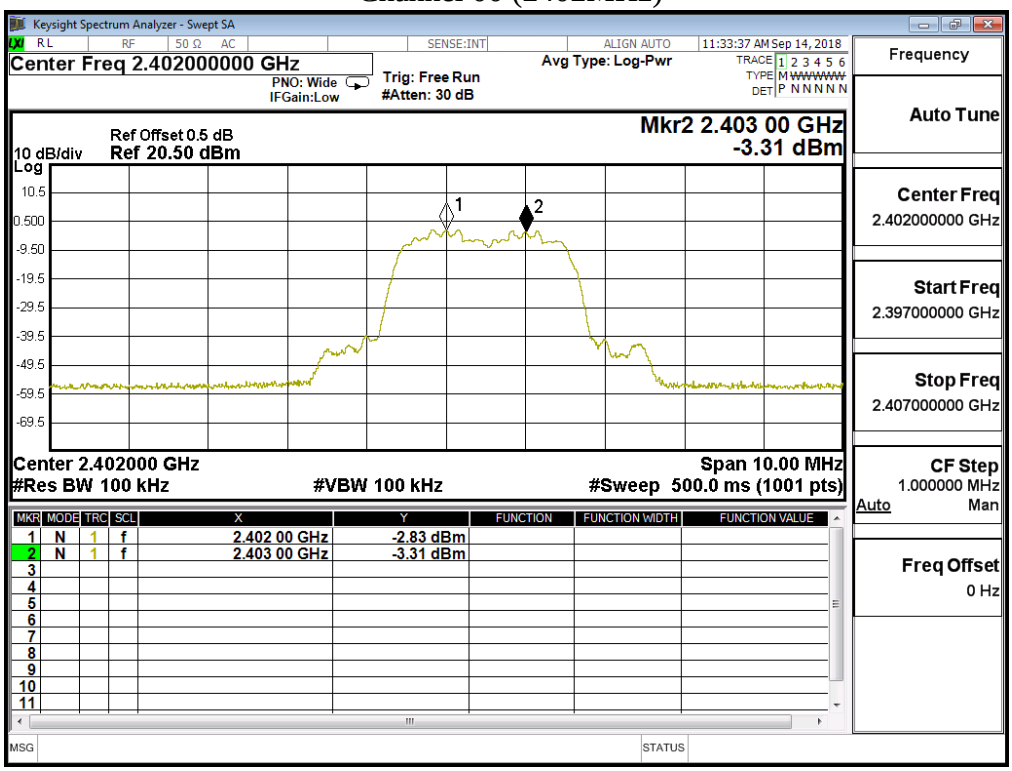


Product : VUZE-XR Camera
Test Item : Channel Separation
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK)

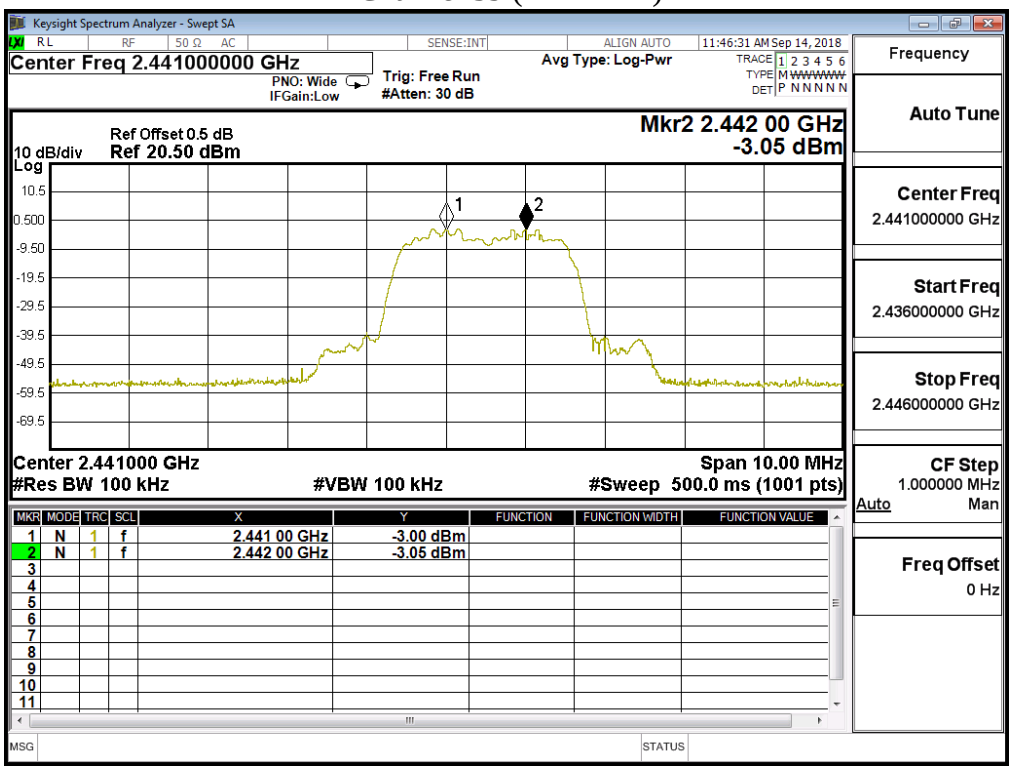
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Limit (kHz)	Limit of (2/3)*20dB Bandwidth (kHz)	Result
00	2402	1000	>25 kHz	864.0	Pass
39	2441	1000	>25 kHz	850.0	Pass
78	2480	1000	>25 kHz	838.0	Pass

NOTE: The 20dB Bandwidth is refer to section 10.

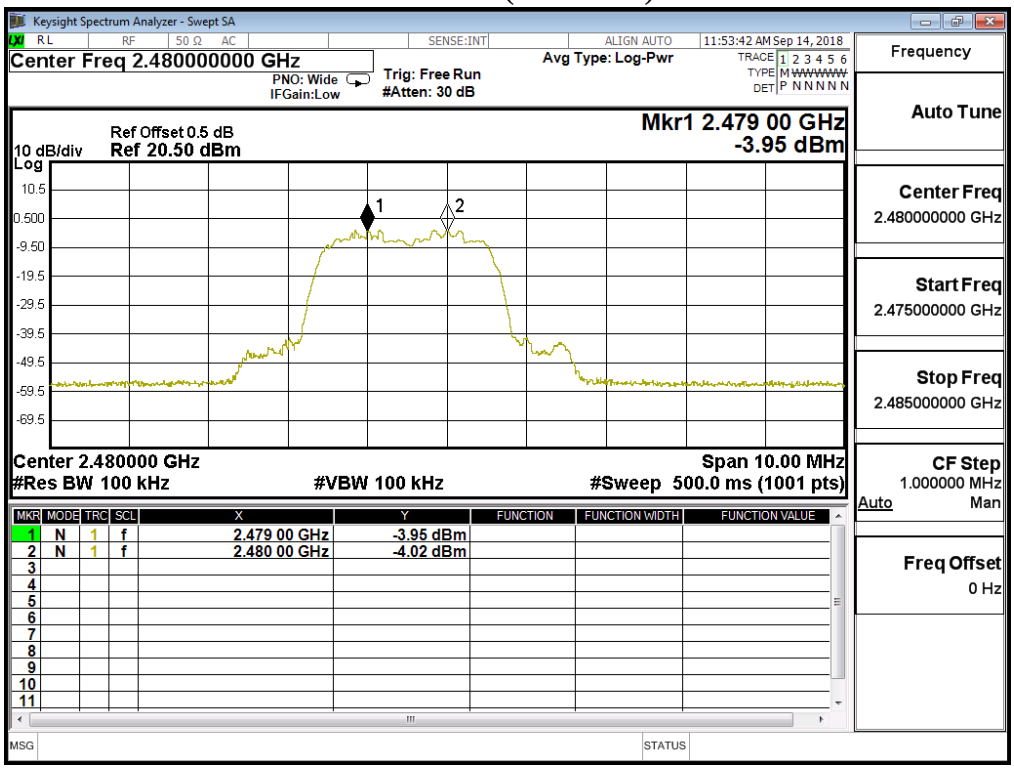
Channel 00 (2402MHz)



Channel 39 (2441MHz)

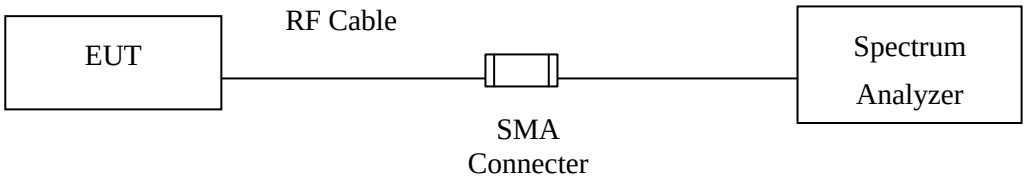


Channel 78 (2480MHz)



9. Dwell Time

9.1. Test Setup



9.2. Limit

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

9.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

9.4. Uncertainty

± 25msec

9.5. Test Result of Dwell Time

Product : VUZE-XR Camera
Test Item : Dwell Time
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 1Mbps (GFSK) (Channel 00,39,78 –DH5)

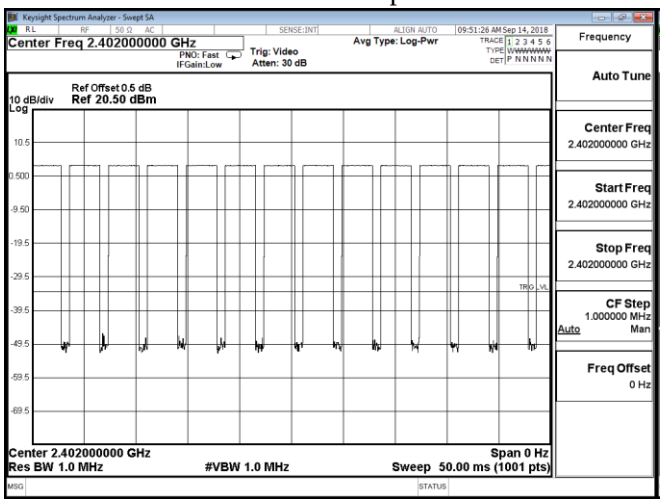
Frequency (MHz)	Time slot length (ms)	Hopping of Number	Sweep time (ms)	Duty cycle	Dwell Time (Sec)	Limit (Sec)	Result
2402	2.887	13	50	0.75	0.301	0.4	Pass
2441	2.887	13	50	0.75	0.301	0.4	Pass
2480	2.887	13	50	0.75	0.301	0.4	Pass

Duty cycle = ((Time slot length(ms)*Hopping of Number) / Sweep time (ms)

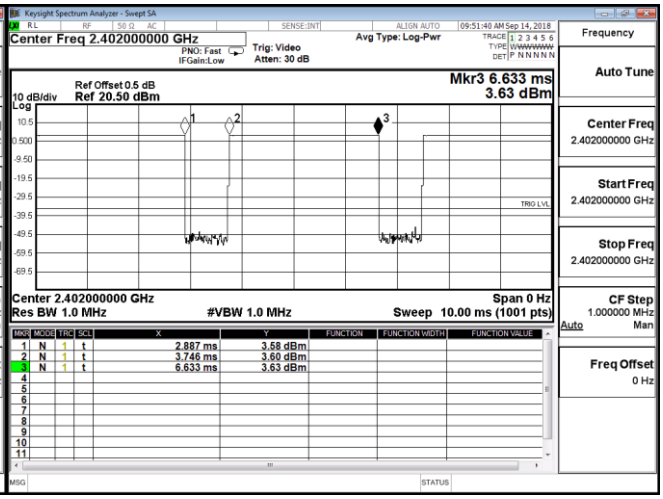
Dwell time = (Duty cycle /79) * (79*0.4)

Dwell time in AFH mode / 20 channels with hopping rate 800 hops /sec.

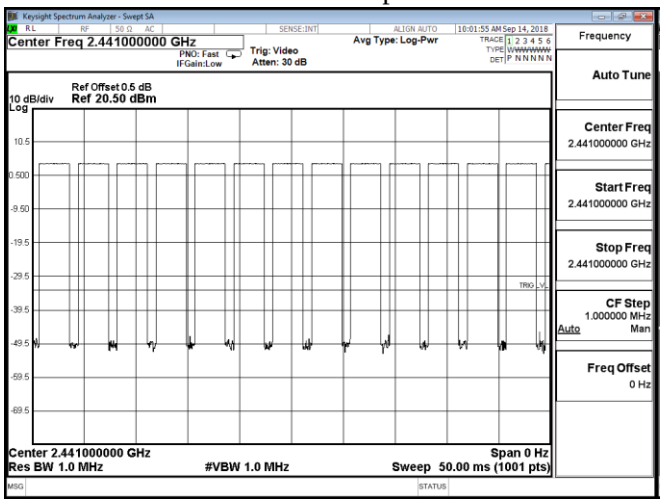
CH 00 Time Interval between hops



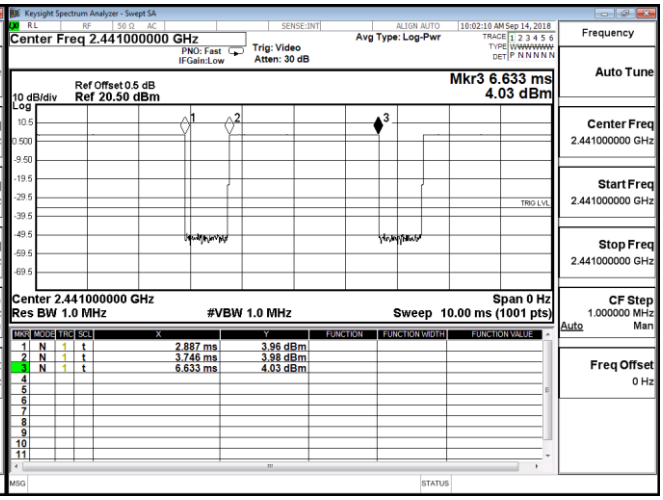
CH 00 Transmission Time



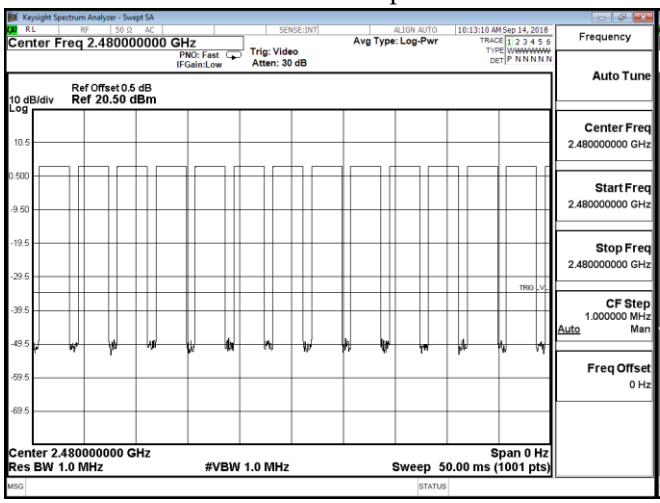
CH39 Time Interval between hops



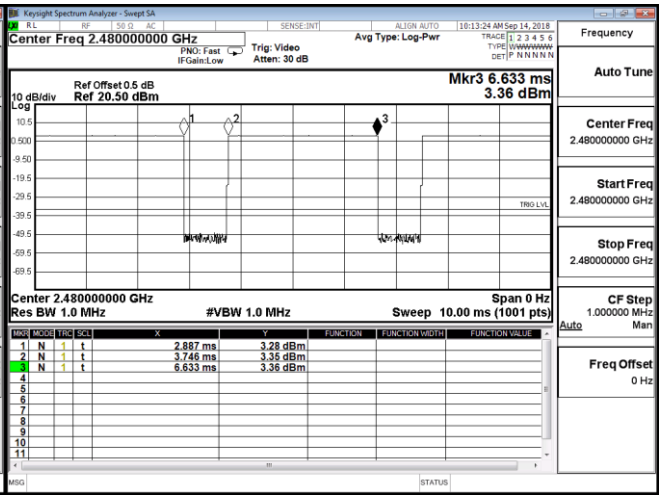
CH 39Transmission Time



CH 78 Time Interval between hops



CH 78 Transmission Time



Note:

The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case is shown on the report.

Product : VUZE-XR Camera
Test Item : Dwell Time
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (Channel 00,39,78 –DH5)

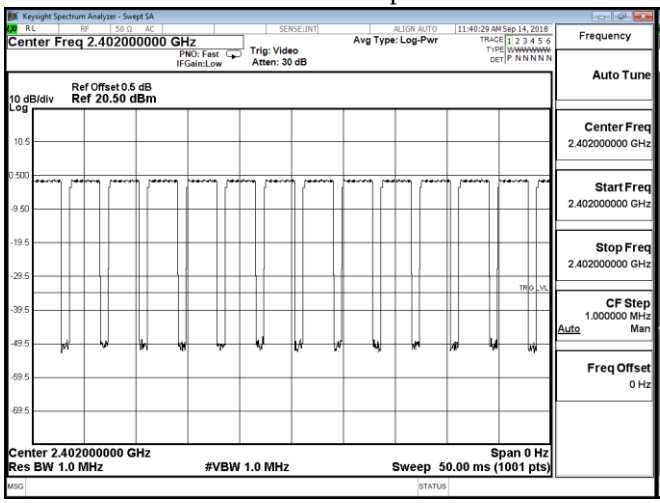
Frequency (MHz)	Time slot length (ms)	Hopping of Number	Sweep time (ms)	Duty cycle	Dwell Time (Sec)	Limit (Sec)	Result
2402	2.888	13	50	0.76	0.302	0.4	Pass
2441	2.888	13	50	0.76	0.302	0.4	Pass
2480	2.888	13	50	0.76	0.302	0.4	Pass

Duty cycle =((Time slot length(ms)*Hopping of Number) / Sweep time (ms)

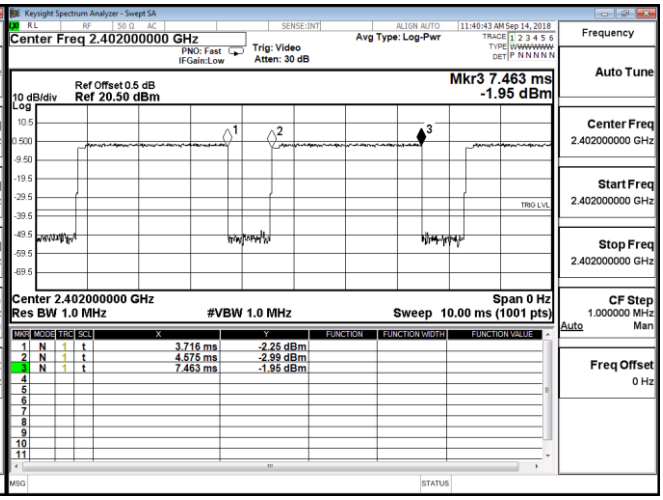
Dwell time = (Duty cycle /79) * (79*0.4)

Dwell time in AFH mode / 20 channels with hopping rate 800 hops /sec.

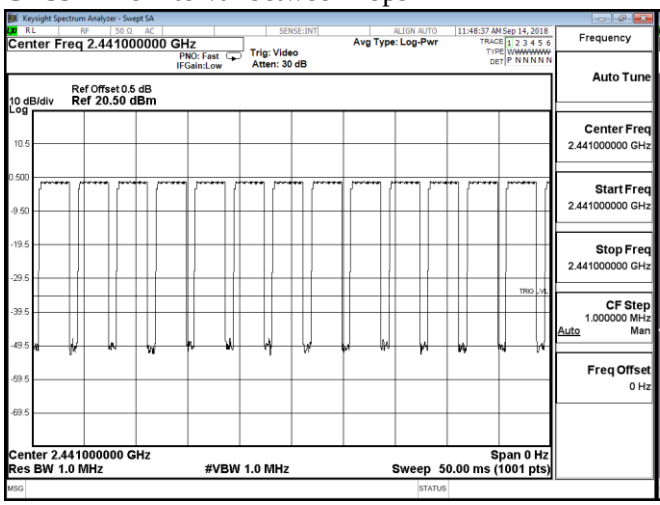
CH 00 Time Interval between hops



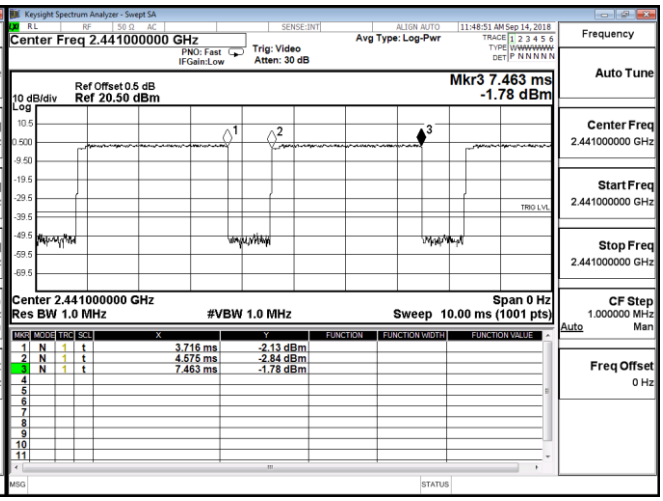
CH 00 Transmission Time



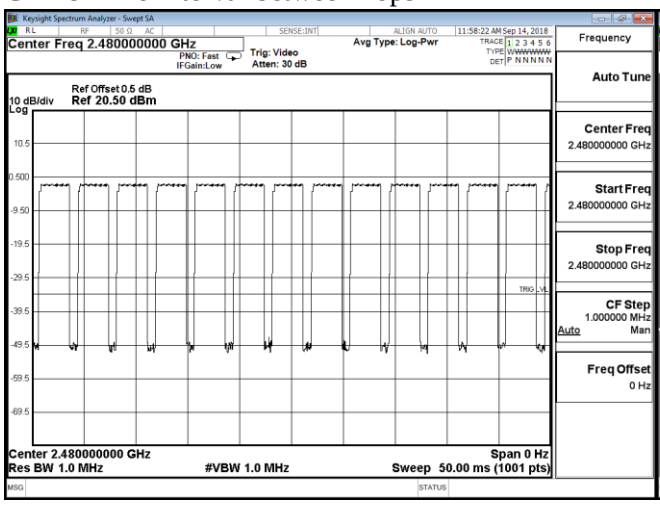
CH39 Time Interval between hops



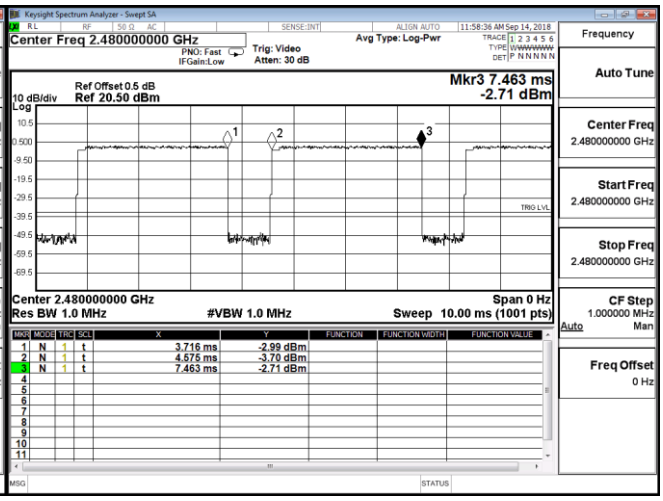
CH 39Transmission Time



CH 78 Time Interval between hops



CH 78 Transmission Time

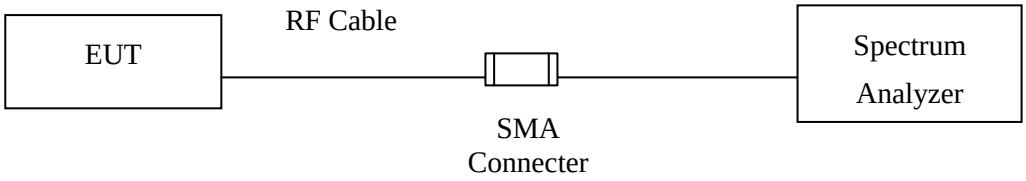


Note:

The dwell times of the packet type of DH1, DH3, and DH5 are tested. Only the worst case is shown on the report.

10. Occupied Bandwidth

10.1. Test Setup



10.2. Limits

N/A

10.3. Test Procedure

The EUT was setup to ANSI C63.4, 2014; tested to FHSS test procedure of FCC Public Notice DA 00-705 for compliance to FCC 47CFR 15.247 requirements.

10.4. Uncertainty

± 283Hz

10.5. Test Result of Occupied Bandwidth

Product : VUZE-XR Camera
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 1: Transmit - 1Mbps (GFSK)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	954	--	NA
39	2441	975	--	NA
78	2480	975	--	NA

Figure Channel 00:

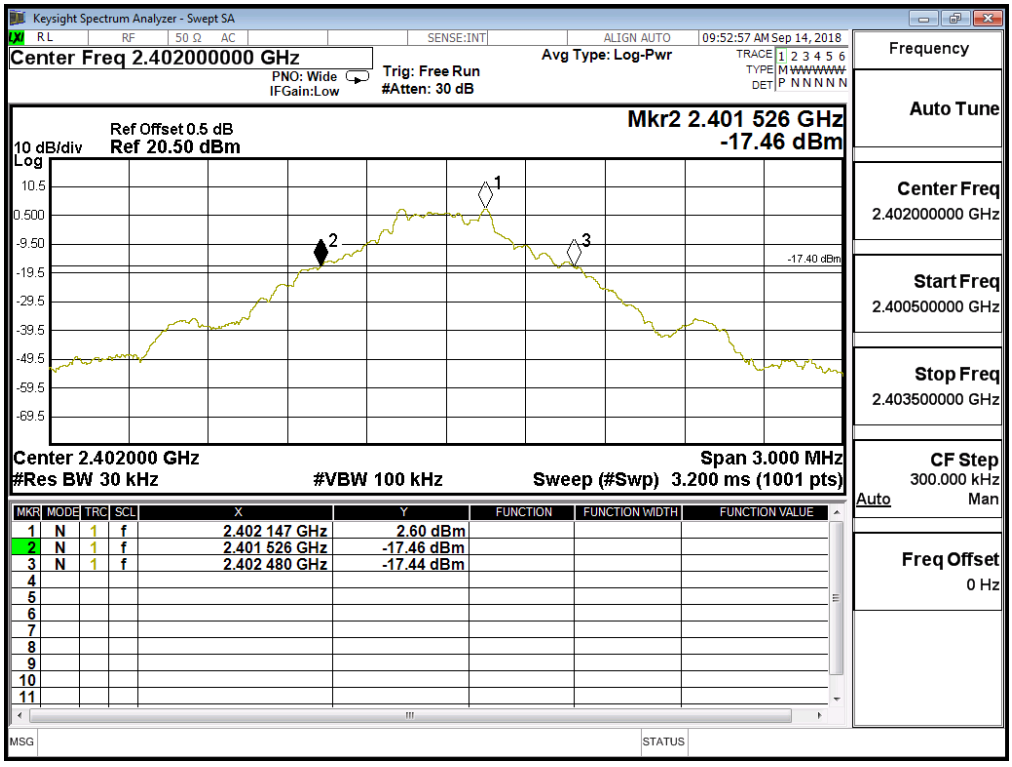


Figure Channel 39:

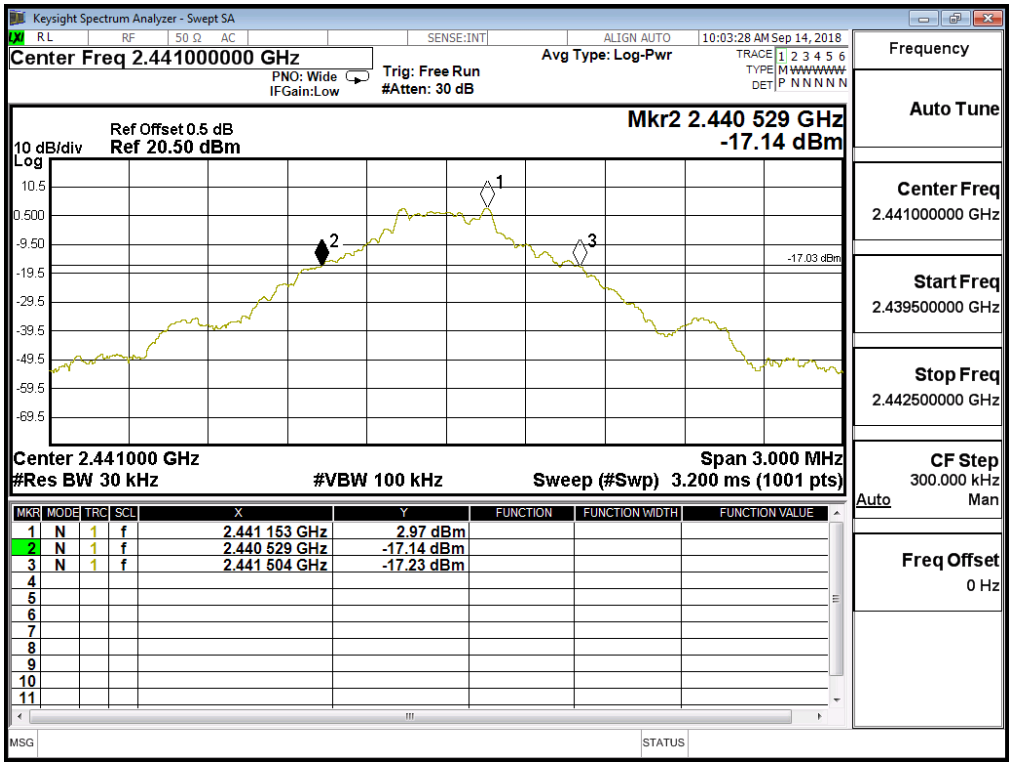
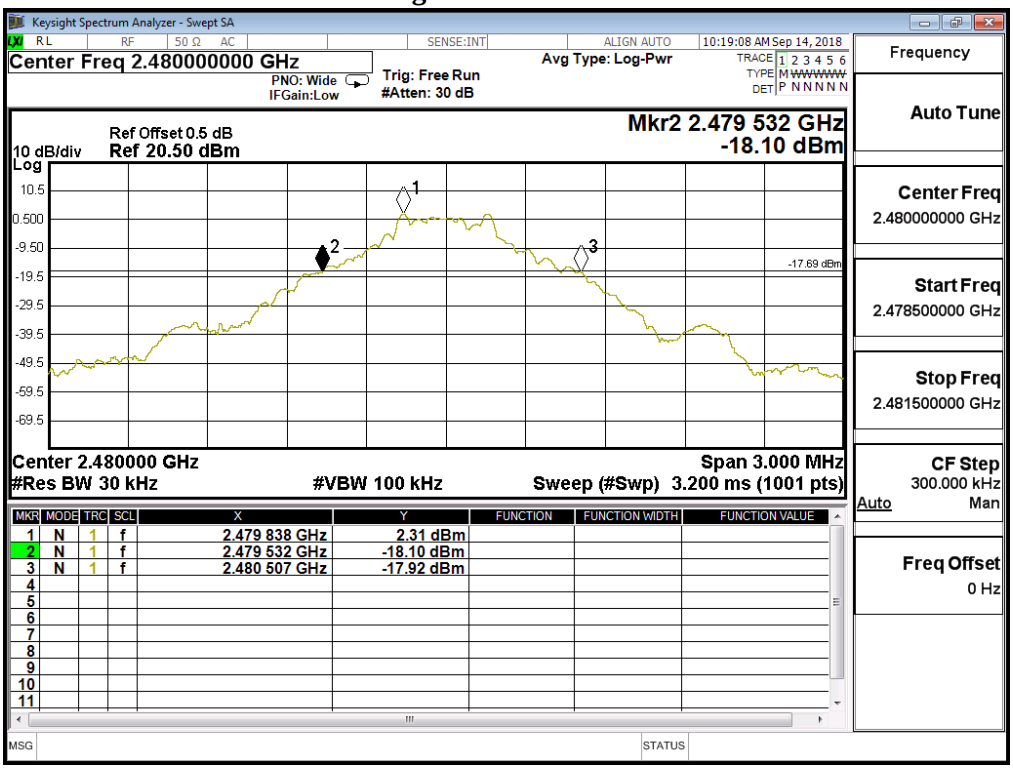


Figure Channel 78:



Product : VUZE-XR Camera
Test Item : Occupied Bandwidth Data
Test Site : No.3 OATS
Test Mode : Mode 2: Transmit - 3Mbps (8DPSK) (2402MHz)

Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
00	2402	1320	--	NA
39	2441	1320	--	NA
78	2480	1329	--	NA

Figure Channel 00:

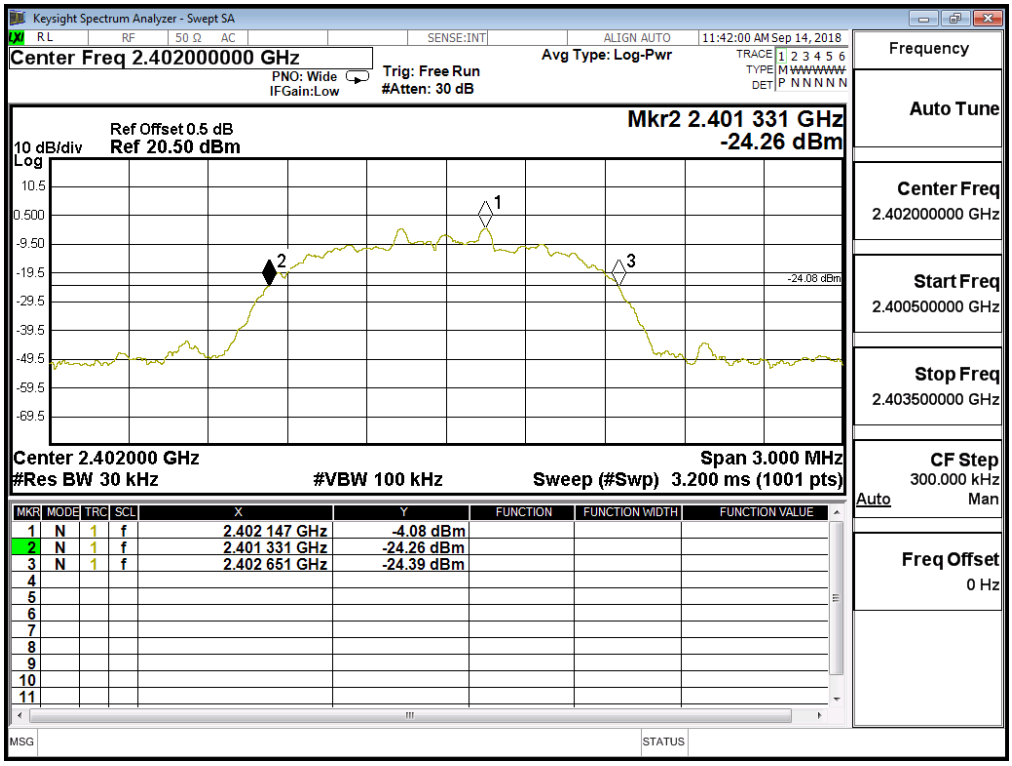


Figure Channel 39:

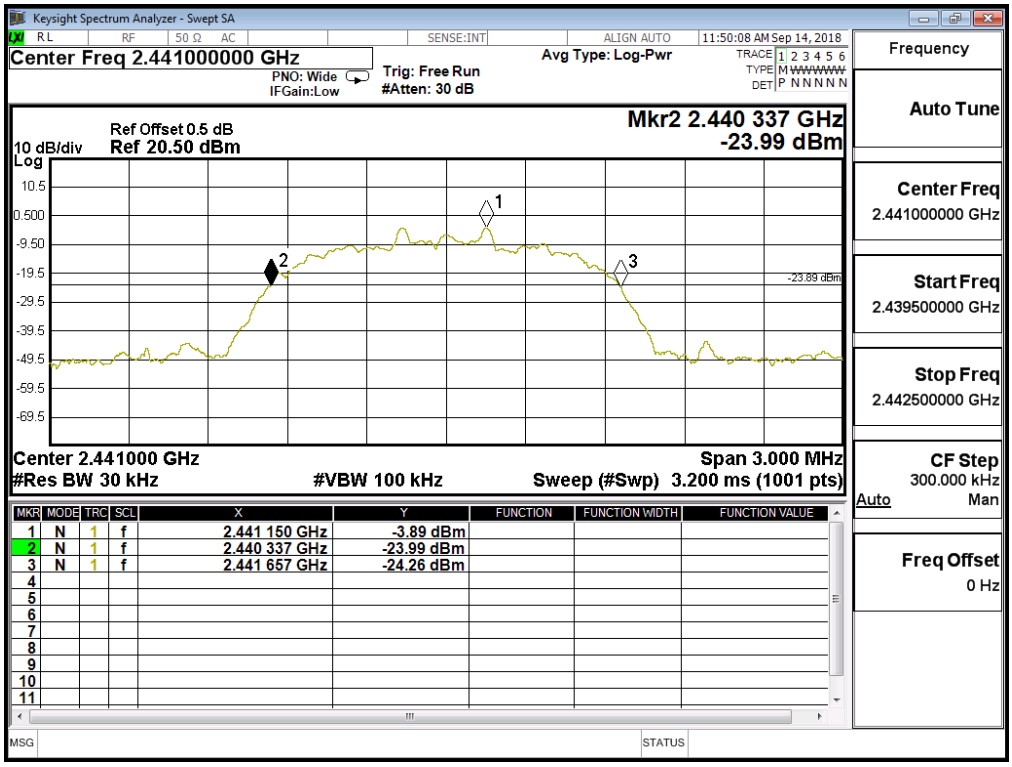
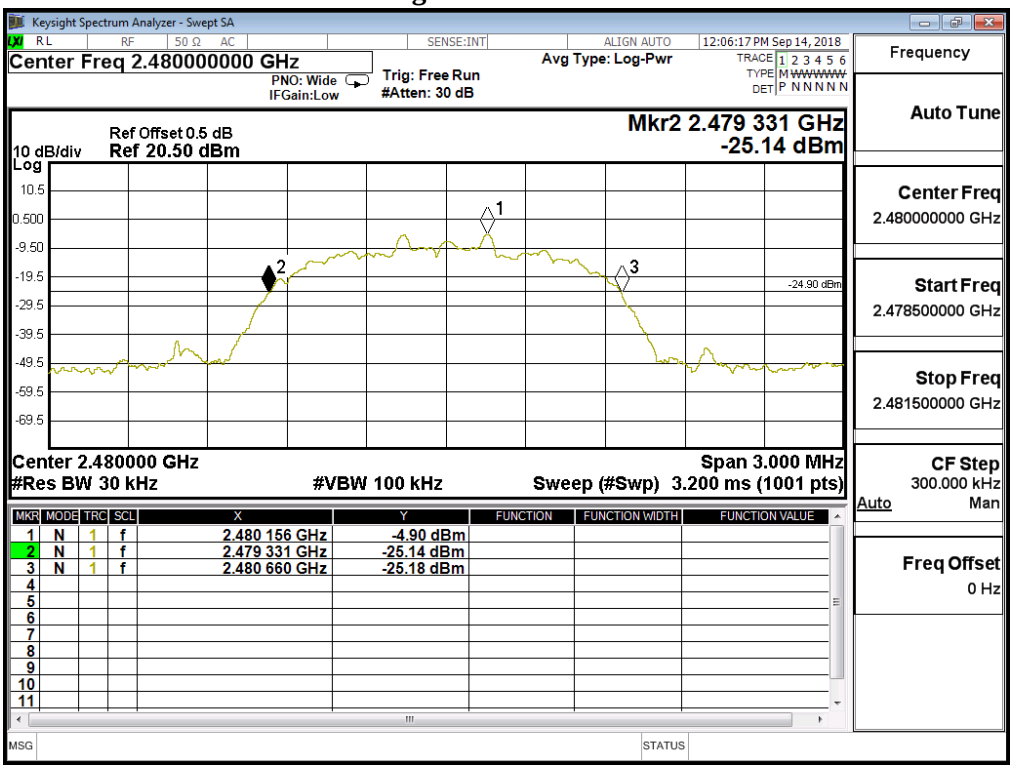


Figure Channel 78:



11. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs